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CITY OF BOSTON.

SECOND ANNUAL REPORT

OF THE

SUPERINTENDENT OF BRIDGES,

FOR THE YEAR 1887.

Bridge Department,
14 Beacon Street, January 30, 1888.

To the Honorable City Council: —

In accordance with the provisions of the eleventh section of Chapter 45 Revised Ordinances of 1885, the following report of the expenses and operations of the department for the year 1887 is respectfully submitted.

Tide-water Bridges.

Broadway bridge (over Fort Point channel).

Sheathed bridge from abutment South Boston end to abutment City proper end, new oak headers on draw and abutment, new deck on span over the Old Colony Railroad, and deck repaired on other portions, fence repaired, sidewalks repaired, new sheathing over chord of draw, new base around draw-house, new closets, two new corner-posts for draw-fence, painted top of bridge two coats, cleaned and painted underneath, from a point fifty feet south side of railroad to and across Fort Point channel.

Boston City Treasurer's Department
Dec. 1904

Labor	$4,050 62		
Lumber	1,837 47		
Nails, spikes, etc.	115 26		
Iron-work	199 80		
Paint stock	436 87		
Sundries	10 70		
		$6,650 72	
Regular expenses: —			
Salaries	$4,544 03		
Supplies	133 09		
Fuel	231 86		
Accident, damages	250 00		
		5,158 98	
			$11,809 70

Cambridge-street bridge (from Brighton to Cambridge).

Sheathed bridge, repaired sheathing on draw, repaired fence, corner of pier and flap: —

Labor	$88 50		
Lumber	101 72		
Nails, spikes, etc.	2 50		
Iron-work	4 93		
Sundries	5 70		
		$203 35	
Regular expenses: —			
Salary	$332 28		
Supplies	1 50		
Fuel	10 87		
		344 65	
			548 00

Charles-river bridge (from Boston to Charlestown).

Sheathed draw and put in new oak headers, repaired water-way, new steps built from landing to low-water line, fence on draw repaired, new sidewalk stringers put in, trucks taken out twice and replaced with new ones, new engine and boiler put in, new engine bed, floor and steps built: —

Labor	$805 50	
Lumber	262 18	
Carried forward,	$1,067 68	$12,357 70

Brought forward,	$1,067 68		$12,357 70
Nails, spikes, etc.	27 23		
Iron-work	800 32		
New engine and boiler.	675 00		
Sundries	282 80		
		$2,653 03	
Regular expenses : —			
Salaries	$3,889 60		
Supplies	433 73		
Fuel	465 58		
Watering	307 50		
		5,096 41	
			7,749 44

Chelsea bridge [North] (over North channel, Mystic river).

Sheathed draw, roof shingled, flight of steps built, new gate on easterly pier and new oak headers. Painted top of bridge two coats, underneath one coat, and row-boat two coats : —

Labor	$728 50		
Lumber	154 05		
Nails, spikes, etc.	6 70		
Iron-work	53 18		
Paint stock	80 25		
Sundries	25 55		
		$1,048 23	
Regular expenses : —			
Salaries	$1,768 74		
Supplies	132 24		
Fuel	23 49		
Sundries	17 85		
		1,942 32	
			2,990 55

Chelsea bridge [South] (over South channel, Mystic river).

House-pier blanked, draw sheathed, fence repaired, easterly and westerly piers repaired, new stable built and painted : —

Labor	$664 25		
Lumber	331 65		
Nails, spikes, etc.	13 85		
Carried forward,	$1,009 75		$23,097 69

Brought forward,	$1,009 75		$23,097 69
Iron-work . . .	82 30		
Paint stock . . .	4 75		
Sundries . . .	20 17		
		$1,117 97	
Regular expenses : —			
Salaries . . .	$2,492 30		
Supplies . . .	121 03		
Fuel	38 64		
		2,652 03	
			3,770 00

Chelsea-street bridge (from East Boston to Chelsea).

Rebuilt portion of bridge destroyed by fire Sept. 7, 1887, and painted top of bridge two coats and underneath one coat : —

Labor . . .	$1,373 25		
Lumber . . .	896 78		
Nails, spikes, etc. .	40 40		
Iron-work . . .	173 90		
Paint stock . .	23 00		
Sundries . . .	61 05		
		$2,568 38	
Also lumber taken from yard.			
Regular expenses : —			
Salary		299 00	
			2,867 38

Commercial Point or Tenean bridge (Ward 24).

Regular expenses : —			
Salary			50 00

Congress-street bridge (over Fort Point channel).

Sheathed draw twice, new oak headers on draw and bulkhead, fence on both sides nearly rebuilt, new ledgers spiked on to stringers under sidewalk, new plank laid and sidewalk concreted, damage caused by steam collier repaired, repairing engine and boilers, buoys reset, and painted top of bridge two coats, underneath one coat, and striped two engines : —

Carried forward,	$29,785 07

Brought forward,			$29,785 07
Labor . . .	$2,129 50		
Lumber . . .	882 85		
Nails, spikes, etc. .	45 29		
Iron-work . . .	271 20		
Paint stock . .	145 54		
Concrete walk . .	347 76		
Resetting buoys .	120 48		
Sundries . . .	3 50		
		$3,946 12	
Regular expenses: —			
Salaries . . .	$4,089 28		
Supplies . . .	231 11		
Fuel	319 27		
Watering . . .	150 00		
		4,789 66	
			8,735 78

Dover-street bridge (over Fort Point channel).

Sheathed draws, patched planking and sidewalk of draws, built new sidewalk on up-stream side of bridge of kyanized spruce, four trucks reset twice, repaired iron fence and machinery, repaired track, trimmed draw, and put in new wheel-guards: —

Labor . . .	$818 25		
Lumber . . .	376 78		
Nails, spikes, etc. .	20 19		
Iron-work . . .	308 88		
Sundries . . .	16 08		
		$1,540 18	
Regular expenses: —			
Salaries . . .	$3,850 39		
Supplies . . .	344 05		
Fuel	20 06		
Sundries . . .	27 25		
		4,241 75	
			5,781 93

Essex-street bridge (from Brighton to Cambridge).

Seventy-one new spruce timbers put in, thirty new spruce bolsters, new deck, sheathed roadway, new hard-pine fence on up-stream

Carried forward,	$44,302 78

Brought forward,			$44,302 78
side, new wheel-guards, new sidewalk, fence on down-stream side rebuilt, draw planked and sheathed, also painted bridge two coats: —			
Labor . . .	$2,630 88		
Lumber . . .	1,625 99		
Nails, spikes, etc. .	82 74		
Iron-work . . .	160 28		
Sundries . . .	173 26		
		$4,673 15	
Paint from stock at yard.			
Regular expenses: —			
Salary . . .	$398 84		
Supplies . . .	6 58		
Fuel	5 74		
		411 16	
			5,084 31
Federal-street bridge (over Fort Point channel).			
Sheathed draws twice, new oak headers put in, new ring-bolts on pier, fifty feet of new fence built, bulkhead repaired, sidewalk repaired, new gate-post put in, repaired stable floor-timbers, new truss-post on upstream draw, new shaft and bevel-gear put in, repaired broken cord, stringers, and truss-bearing: —			
Labor . . .	$793 62		
Lumber . . .	349 82		
Nails, spikes, etc. .	43 33		
Iron-work . . .	437 99		
Sundries . . .	25 27		
		$1,650 03	
Regular expenses: —			
Salaries . . .	$3,302 33		
Supplies . . .	304 06		
Fuel	25 80		
Sundries . . .	13 65		
		3,645 84	
			5,295 87
Granite bridge (from Dorchester to Milton). New deck on draw and new sheathing put in,			
Carried forward,			$54,682 96

Brought forward.			$54,682 96
water-way sheathed, also the bridge, and new flaps put in: —			
Labor . . .	$223 50		
Lumber . . .	156 33		
Nails, spikes, etc. .	14 17		
Iron-work . . .	18 12		
Sundries . . .	13 17		
		$425 29	
Regular expenses: —			
Salary . . .	$239 20		
Supplies . . .	3 00		
		242 20	
			667 49
Malden bridge (from Charlestown to Everett).			
Sheathed draw, new oak headers put in and bumper repaired: —			
Labor . . .	$75 13		
Lumber . . .	50 37		
Nails, spikes, etc. .	4 73		
Iron-work . . .	9 63		
Sundries . . .	22 75		
		$162 61	
Regular expenses: —			
Salaries . . .	$1,496 04		
Supplies . . .	33 20		
Fuel	15 15		
		1,544 39	
			1,707 00
Meridian-street bridge (from East Boston to Chelsea).			
Repaired fence and sheathing, new stall built, stable floor repaired, new ladder from draw to pier, house-door repaired, concrete sidewalks relaid both sides of bridge, and buoys reset. Painted top of bridge two coats, underneath one coat: —			
Labor . . .	$979 25		
Lumber . . .	62 72		
Nails, spikes, etc. .	7 02		
Iron-work . .	106 53		
Paint stock . .	138 35		
Concrete sidewalks .	867 35		
Carried forward,	$2,161 22		$57,057 45

Brought forward,	$2,161 22		$57,057 45
Resetting buoys .	163 37		
Sundries . . .	91 95		
		$2,416 54	
Regular expenses: —			
Salaries . . .	$1,592 90		
Supplies . . .	188 33		
Fuel	24 47		
Sundries . . .	20 25		
		1,825 95	
			4,242 49
Mt. Washington avenue bridge (over Fort Point channel).			
Draw-deck repaired, sheathed draw, repaired machinery and concrete walk, and reset buoy: —			
Labor . . .	$200 62		
Lumber . . .	183 26		
Nails, spikes, etc. .	18 44		
Iron-work . . .	3 80		
Resetting buoy . .	60 00		
Sundries . . .	10 50		
		$476 62	
Regular expenses: —			
Salaries . . .	$4,089 28		
Supplies . . .	53 22		
Fuel	26 25		
Rent of land . .	60 00		
		4,228 75	
			4,705 37
Neponset bridge (from Dorchester to Quincy).			
Westerly pier replanked and new caps put in. Easterly pier: planking repaired, new caps, new ring-bolts, new cap on guard. Draw: machinery repaired, replaced old gear with new, and new gang-plank made: —			
Labor . . .	$341 00		
Lumber . . .	188 34		
Nails, spikes, etc. .	30 12		
Iron-work . . .	67 05		
Sundries . . .	29 05		
		$655 56	
Carried forward,		$655 56	$66,005 31

Brought forward,		$655 56	$66,005 31
Regular expenses: —			
Salary . . .	$398 84		
Supplies . . .	3 16		
		402 00	
			1,057 56
North Beacon street bridge (from Brighton to Watertown).			
Sheathed bridge and draw with spruce: —			
Labor . . .	$86 00		
Lumber . . .	166 28		
Nails, spikes, etc. . .	6 90		
Sundries . . .	2 36		
		$261 54	
Regular expenses: —			
Salary		74 88	
			336 42
North Harvard street bridge (from Brighton to Cambridge).			
Sheathed bridge and draw and repaired flap: —			
Labor . . .	$67 25		
Lumber . . .	68 42		
Nails, spikes, etc. .	3 73		
Iron-work . . .	10 13		
Sundries . . .	8 12		
		$157 65	
Regular expenses: —			
Salary . . .	$332 28		
Supplies . . .	1 58		
Fuel	2 87		
		336 73	
			494 38
Warren bridge (from Boston to Charlestown).			
Sheathed both draws twice, put in new oak headers, repaired fence, repaired engine and machinery, and reset buoys: —			
Labor . . .	$485 50		
Lumber . . .	346 95		
Nails, spikes, etc. .	16 49		
Carried forward,	$848 94		$67,893 67

Brought forward,	$848 94		$67,893 67
Iron-work . . .	147 37		
Paint stock . .	4 88		
Resetting buoys . .	105 00		
Sundries . . .	21 48		
		$1,127 67	
Regular expenses: —			
Salaries . . .	$4,587 96		
Supplies . . .	298 36		
Fuel	586 03		
Accidents, damages .	622 00		
Watering . . .	412 50		
		6,506 85	
			7,634 52
Western-avenue bridge (from Brighton to Cambridge).			
Repaired sheathing, etc.: —			
Labor . . .	$94 00		
Nails, spikes, etc. .	1 80		
Iron-work . . .	13 73		
Sundries . . .	7 52		
		$117 05	
Lumber taken from Cambridge street and North Harvard street bridges.			
Regular expenses: —			
Salary		332 28	
			449 33
Western-avenue bridge (from Brighton to Watertown).			
Draw replanked and sheathed: —			
Labor . . .	$41 00		
Lumber . . .	32 83		
Nails, spikes, etc. .	5 60		
Iron-work . . .	4 90		
Sundries . . .	2 44		
		$86 77	
Regular expenses: —			
Salary		74 88	
			161 65
Carried forward,			$76,139 17

Brought forward,			$76,139 17
Winthrop bridge (from Breed's Island to Winthrop).			
Repaired bridge by putting in eighteen new piles, new girders, braces, etc., also sheathed roadway, and portion of sidewalk re-planked: —			
Labor . . .	$867 13		
Lumber . . .	352 46		
Nails, spikes, etc. .	24 99		
Iron-work . . .	45 21		
Use of pile-driver and labor on same .	230 67		
Piles . . .	126 00		
Sundries . . .	61 56		
		$1,708 02	
Regular expenses: —			
Salary . . .	$100 00		
Supplies . . .	10 76		
		110 76	
			1,818 78
			$77,957 95

INLAND BRIDGES.

Beacon-street bridge (over outlet to Back Bay park pond).		
Sheathed roadway: —		
Labor	$78 25	
Lumber	69 82	
Nails, spikes, etc. . . .	7 45	
		$155 52
Berkeley-street bridge (over Boston and Albany Railroad).		
Sheathed roadways, put in new deck, new wheel guards, and new timbers where needed: —		
Labor	$607 75	
Lumber	378 00	
Nails, spikes, etc. . . .	23 58	
Iron-work	12 37	
		1,021 70
Carried forward,		$1,177 22

Brought forward,		$1,177 22
Berkeley-street bridge (over Boston & Providence Railroad).		
Sheathed roadway: —		
Labor	$171 00	
Lumber	374 73	
Nails, spikes, etc.	14 25	
		559 98
Broadway bridge (over Boston & Albany Railroad).		
Sheathed road-ways, deck taken up, relayed and renewed where needed, cleaned top of bridge and underneath, painted top one coat and underneath two coats: —		
Labor	$2,067 37	
Lumber	372 66	
Nails, spikes, etc.	48 71	
Iron-work	42 51	
Paint stock	252 35	
Sundries	7 30	
		2,790 90
Brookline-avenue bridge (over Boston & Albany Railroad).		
Painted top of bridge two coats: —		
Labor	$398 75	
Paint stock	75 25	
		474 00
Dartmouth-street bridge (over Boston & Albany and Boston & Providence Railroads). Repaired sheathing, and repaired deck and sheathed roadways: —		
Labor	$359 50	
Lumber	238 96	
Nails, spikes, etc.	14 05	
Sundries	17 50	
		630 01
Ferdinand-street bridge (over Boston & Albany Railroad).		
Carried forward,		$5,632 11

Brought forward.		$5,632 11
Sheathed roadway and repaired sidewalk: —		
Labor	$110 00	
Lumber	105 87	
Iron-work	5 45	
		221 32
Huntington-avenue bridge (over Boston & Albany Railroad).		
New deck and sidewalks laid, sheathed roadway, painted underneath bridge one coat and fence two coats: —		
Labor	$1,422 75	
Lumber	907 01	
Nails, spikes, etc.	40 20	
Paint stock	124 54	
		2,494 50
Shawmut-avenue bridge (over Boston & Albany Railroad).		
Sheathed Easterly side of roadway, patched Westerly side and under sidewalk: —		
Labor	$102 25	
Lumber	62 23	
Nails, etc.	4 60	
		169 08
Williams-street bridge (over Stony Brook).		
Repaired abutments, put in new timbers, planked and sheathed roadway, and repaired fence: —		
Labor	$184 00	
Lumber	220 50	
Nails, spikes, etc.	14 80	
Sundries	8 90	
		428 20
Repairing bridges, not included in work enumerated elsewhere: —		
Labor	$435 13	
Lumber	300 95	
Nails, spikes, etc.	9 45	
Iron-work	10 24	
Sundries	56 85	
		812 62
		$9,757 83

Miscellaneous.

Badges for draw-tenders and assistants	$64 00
City Engineer, horse-hire and car-fares for	59 16
Feed for stable at yard	209 49
Fuel at yard	18 55
Harnesses, repairs, etc.	115 55
Horse-shoeing	49 85
Hydraulic jacks, repairs, etc.	275 85
Medical attendance on horses	32 75
Printing and stationery	339 88
Removing snow from sundry bridges	211 75
Repairing buildings at yard	91 60
Repairing wagon and vehicles	119 78
Salaries of superintendent and clerks	5,100 99
Stableman	112 50
Storekeeper	828 25
Sundry office expenses	7 50
Sundry bridge supplies	256 86
Sundry stable supplies	46 22
Sundry yard supplies	10 40
Teamster	750 00
Telephones, expense of	226 75
Tools, etc., for carpenters	136 19
Tools, etc., for painters	129 29
Watchman	87 50
Water for stable	15 00
	$9,295 66

RECAPITULATION.

Table showing Expenditures on the Tide-water Bridges for the year 1887.

Name of Bridge.	Regular Expenses, Salaries, Fuel, and all small Supplies.	Repairs, Lumber, Iron-work, Painting, and Labor.	Total.
Broadway	$5,158 98	$6,650 72	$11,809 70
Cambridge street	344 65	203 35	548 00
Charles river	5,096 41	2,653 03	7,749 44
Chelsea (North)	1,942 32	1,048 23	2,990 55
Chelsea (South)	2,652 03	1,117 97	3 770 00
Chelsea street	299 00	2,568 38	2,867 38
Commercial point	50 00	.....	50 00
Congress street	4,789 66	3,946 12	8,735 78
Dover street	4,241 75	1,540 18	5,781 93
Essex street	411 16	4,673 15	5,084 31
Federal street	3,645 84	1,650 03	5,295 87
Granite	242 20	425 29	667 49
Malden	1,544 39	162 61	1,707 00
Meridian street	1,825 95	2,416 54	4,242 49
Mt. Washington avenue	4,228 75	476 62	4,705 37
Neponset	402 00	655 56	1,057 56
North Beacon street	74 88	261 54	336 42
North Harvard street	336 73	157 65	494 38
Warren	6,506 85	1,127 67	7,634 52
Western avenue (to Cambridge)	332 28	117 05	449 33
Western avenue (to Watertown)	74 88	86 77	161 65
Winthrop	110 76	1,708 02	1,818 78
Totals	$44,311 47	$33,646 48	$77,957 95

Table showing Expenditures on the Inland Bridges during the year 1887.

Name of Bridge.	Repairs, Lumber, Iron-work, Painting, and Labor.
Beacon street (over outlet)	$155 52
Berkeley street (over B. & A. R.R.)	1,021 70
Berkeley street (over B. & P. R.R.)	559 98
Broadway (over B. & A. R.R.)	2,790 90
Brookline avenue	474 00
Dartmouth street	630 01
Ferdinand street	221 32
Huntington avenue	2,494 50
Shawmut avenue	169 08
Williams street	428 20
Repairing bridges	812 62
Total	$9,757 83

Expenditures on tide-water bridges	$77,9579 5
" inland "	9,7578 3
Miscellaneous expenditures	9,295 66
Total	$97,011 44

GENERAL SUMMARY OF EXPENDITURES.

Salaries	$38,335 39
Labor	23,480 00
Lumber	11,457 98
Miscellaneous	9,295 66
Sundries	4,687 16
Iron-work	3,664 82
Supplies	2,299 00
Fuel	1,796 08
Paint stock	1,286 78
Nails, spikes, etc.	708 57
Total	$97,011 44

Balance of regular appropriation on hand January 1, 1887, was	$17,315 42
Special appropriation Charles-river bridge	1,309 12
Transferred from Overseers of the Poor	632 76
Total	$19,257 30

All of which was expended May 1, 1887.

Appropriation for 1887–8 was	$92,000 00
Special appropriation from Albany-street bridge	1 393 03
Special appropriation from Mt. Washington-avenue bridge for Chelsea-street bridge .	3,000 00
Special appropriation from same for new road-gates at several bridges . . .	2,500 00
Total	$98,893 03
Amount expended of same Jan. 1, 1888, was .	77,754 14
Balance on hand Jan. 1, 1888, was . .	$21,138 89

Amount expended from appropriation and transfers 1886–7 was	19,257 30
Amount expended from appropriation and transfers 1887–8 was	$77,754 14
Total expended from Jan. 1, 1887, to Jan. 1, 1888	$97,011 44

The amount of bills for repairing damage done to bridges by vessels and teams, sale of old iron, etc., lodged with the City Collector during the year was $643.

I. — BRIDGES WHOLLY SUPPORTED BY BOSTON.

In the list those marked with an asterisk are over navigable waters, and are each provided with a draw.

Ashland street, Ward 23, over Boston & Providence Railroad.
Athens street, over N.Y. & N.E. Railroad.
Beacon Entrance, Back Bay, over Boston & Albany Railroad.
Beacon street, over outlet to Back-Bay pond.
Beacon street, over Boston & Albany Railroad.
Berkeley street, over Boston & Albany Railroad.
Berkeley street, over Boston & Providence Railroad.
Blakemore street, over Boston & Providence Railroad, Ward 23.
Boylston street, over outlet to Back-Bay pond.
*Broadway, over Fort Point Channel.
Broadway, over Boston & Albany Railroad.

Brookline avenue, over Boston & Albany Railroad.
*Charles river, from Boston to Charlestown.
*Chelsea (South), over South Channel, Mystic river.
*Chelsea street, from East Boston to Chelsea.
Columbus avenue, over Boston & Albany Railroad.
*Commercial Point, or Tenean, Ward 24.
Commonwealth avenue, over outlet to Back-Bay pond.
*Congress street, over Fort Point Channel.
Dartmouth street, over Boston & Albany and Boston & Providence Railroads.
*Dover street, over Fort Point Channel.
*Federal street, over Fort Point Channel.
Ferdinand street, over Boston & Albany Railroad.
Franklin street foot-bridge, over Boston & Albany Railroad.
Huntington avenue, over Boston & Albany Railroad.
Linden Park street, over Stony Brook.
*Malden, from Charlestown to Everett.
*Meridian street, from East Boston to Chelsea.
*Mt. Washington avenue, over Fort Point Channel.
Newton street, over Boston & Providence Railroad.
Public Garden foot-bridge.
Shawmut avenue, over Boston & Albany Railroad.
Swett street, east of N.Y. & N.E. Railroad.
Swett street, west of N.Y. & N.E. Railroad.
*Warren, from Boston to Charlestown.
West Chester park, over Boston & Albany Railroad.
West Chester park, over Boston & Providence Railroad.
West Rutland square foot-bridge, over Boston & Providence Railroad.
Winthrop, from Breed's Island to Winthrop.

II. — Bridges of which Boston supports the Part within its Limits.

*Cambridge street, from Brighton to Cambridge.
Central avenue, from Ward 24 to Milton.
*Chelsea (North), from Charlestown to Chelsea.
*Essex street, from Brighton to Cambridge.
*Granite, from Dorchester, Ward 24, to Milton.
Longwood avenue, from Ward 22 to Brookline.
Mattapan, from Ward 24 to Milton.
Milton, from Ward 24 to Milton.
*Neponset, from Ward 24 to Quincy.
*North Beacon street, from Brighton to Watertown.
*North Harvard street, from Brighton to Cambridge.

Spring street, from West Roxbury to Dedham.
*Western avenue, from Brighton to Cambridge.
*Western avenue, from Brighton to Watertown.

III. — BRIDGES OF WHICH BOSTON PAYS A PART OF THE COST OF MAINTENANCE.

Albany street, over Boston & Albany Railroad.
Dorchester street, over Old Colony Railroad.
*Canal, from Boston to Cambridge.
*Prison Point, from Charlestown to Cambridge.
*West Boston, from Boston to Cambridge.

The last three bridges are in the care of Commissioners, who make an annual report to the City Council.

IV. — BRIDGES SUPPORTED BY RAILROAD CORPORATIONS.

1st. — Boston & Albany Railroad.

Brighton avenue, Brighton.
Harrison avenue.
Market street, Brighton.
Tremont street.
Washington street.

2d. — Boston & Maine Railroad.

Mystic avenue.
Main street.

3d. — Boston & Maine Railroad, Eastern Division.

Mystic avenue.
Main street.

4th. — Boston & Providence Railroad.

Beech street, Ward 23.
Bellevue street, Ward 23.
Canterbury street, Ward 23.
Centre street, or Hog Bridge, Ward 23.
Centre and Mt. Vernon streets, Ward 23.
Dudley avenue, Ward 23.
Park street, Ward 23.

5th. — Boston, Revere Beach, & Lynn Railroad.

Everett street.

6th. — New York & New England Railroad.

Broadway.
Dorchester avenue.
Fifth street.
Forest Hills avenue, Ward 24.
Fourth street.
Harvard street, Ward 24.
Norfolk " "
Norfolk " "
Second street.
Silver street.
Sixth street.
Third street.
Washington street, Ward 24.

7th. — Old Colony Railroad.

Adams street.
Ashmont street and Dorchester avenue.
Cedar Grove Cemetery.
Commercial street.
Savin Hill avenue.

RECAPITULATION.

I.	Number wholly supported by Boston . .	39
II.	Number of which Boston supports the part within its limits	14
III.	Number of which Boston pays a part of the cost of maintenance	5
IV.	Number supported by Railroad Corporations : —	
1.	Boston & Albany	5
2.	Boston & Maine	2
3.	" " Eastern Div.	2
4.	Boston & Providence	7
5.	Boston, Revere Beach, & Lynn . . .	1
6.	New York & New England	13
7.	Old Colony	5
	Total number	93

The existing regulations for the passage of vessels through drawbridges have been posted on the several bridges, as required by law.

The records of the number of draw openings, vessels passing through the draw-ways, time of passage, kind of vessels, etc., as kept by the draw-tenders of the several bridges,

have been tabulated, and the totals are given in the summary, which will be found in Appendices A and D.

A list of widths of openings for vessels in all bridges provided with draws in the city will be found in Appendix B.

The widths of the openings were measured by the City Engineer.

A list of culverts and small bridges will be found in Appendix C.

Appendix E contains a list of tools, etc., at Foundry-st. yard.

BARTHOLOMEW M. YOUNG,
Superintendent of Bridges.

APPENDICES.

APPENDIX A.

DRAW-TENDERS' REPORT,

Giving the number of Vessels passing through the Drawbridges controlled by the City of Boston during the year 1887.

Name of Bridge.	Steamers.			Sailing Vessels.			Tugs.			All Others.			Total No. Vessels.			No. of Draw Openings.
	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	
Broadway	13	8	21	2,175	1,013	3,188	1,198	162	1,360	157	37	194	3,543	1,220	4,763	3,761
Cambridge Street	...	...	...	394	67	461	669	114	783	55	6	61	1,118	187	1,305	808
Charles River	32	21	53	3,184	1,601	4,785	1,481	383	1,864	556	333	889	5,253	2,338	7,591	6,101
Chelsea (North)	70	19	89	698	88	786	1,274	147	1,421	250	88	338	2,292	342	2,634	1,922
Chelsea (South)	2	...	2	1,073	123	1,196	2,413	265	2,678	487	45	532	3,975	433	4,408	2,718
Chelsea Street	1	...	1	12	...	12	...	...	...	10	...	10	23	...	23	22
Commercial Point	...	..	...	...	...	...	...	...	...	3	..	3	3	...	3	3
Congress Street	261	104	365	4,230	1,325	5,555	5,005	939	5,944	1,404	486	1,890	10,900	2,854	13,754	8,116
Dover Street	10	9	19	1,823	848	2,671	1,089	186	1,275	154	52	206	3,076	1,095	4,171	3,352
Essex Street	...	...	...	439	73	512	698	131	829	39	3	42	1,176	207	1,383	835
Federal Street	12	8	20	2,238	1,099	3,337	1,325	205	1,530	183	61	244	3,758	1,373	5,131	4,289

Granite	...	...	...	105	4	109	165	2	167	...	...	...	270	6	276	202
Malden	2	2	4	277	21	298	707	68	775	146	19	165	1,132	110	1,242	764
Meridian Street	22	3	25	955	108	1,063	2,344	209	2,553	673	46	719	3,994	366	4,360	2,758
Mt. Washington Avenue	48	12	60	2,899	1,145	4,044	3,340	583	3,923	951	283	1,234	7,238	2,023	9,261	6,755
Neponset	...	...	...	190	32	222	159	3	162	2	1	3	351	36	387	296
North Beacon Street	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
North Harvard Street	...	...	...	143	16	159	248	36	284	18	6	24	409	58	467	300
Warren	20	24	44	1,568	2,365	3,933	550	314	864	465	440	905	2,603	3,143	5,746	5,088
Western Ave. to Cambridge	...	...	...	358	59	417	620	103	723	52	5	57	1,030	167	1,197	740
Western Ave. to Watertown	...	...	...	12	...	12	21	4	25	15	3	18	48	7	55	55
Totals	493	210	703	22,773	9,987	32,760	23,306	3,854	27,160	5,620	1,914	7,534	52,192	15,965	68,157	48,885

West Boston, Prison Point, and Canal (or Craigie's) Bridges, not included in these tables, being in the care of Commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

APPENDIX B.

Table showing the Widths of Openings for Vessels in all Bridges, provided with Draws, in the City of Boston, January, 1888.

Name of Bridge.	Location.	Number of Openings.	Width.
Boston & Maine R.R.	Boston to Charlestown .	1	35 feet 3 inches.
" " "	Over Miller's river . . .	1	35 " 7 "
Broadway	Over Fort Point channel.	1	43 " 3 "
Cambridge st.	Ward 25 to Cambridge .	1	30 " 5 "
Canal	Boston to East Cambridge	1	35 " 10 "
Charles river	Boston to Charlestown .	1	36 " 0 "
Chelsea (south channel)	Charlestown to Chelsea .	1	38 " 8 "
Chelsea (north channel)	" " "	1	43 " 9 "
Chelsea st. (East Boston side) . .	East Boston to Chelsea .	2	33 " 0 "
" " (Chelsea side)	" " " "	. .	34 " 3 "
Commercial Point	Ward 24	1	23 " 10 "
Congress st. (Boston side)	Over Fort Point channel.	2	43 " 4 "
" " (South Boston side) .	" " " "	. .	43 " 10 "
Dover st. (at high water)	" " " "	1	36 " 0 "
Eastern R.R.	Boston to Charlestown .	1	35 " 10 "
" "	Over Miller's river . . .	1	35 " 6 "
Essex st.	Ward 25 to Cambridge .	1	30 " 11 "
Federal st.	Over Fort Point channel.	1	36 " 0 "
Fitchburg R.R.	Boston to Charlestown .	1	36 " 0 "
" " (for teaming freights) . . .	" " " .	1	36 " 0 "
Grand Junction R.R.	Ward 25 to Cambridge .	1	32 " 2 "
" " "	East Boston to Chelsea .	1	34 " 6 "
Granite	Ward 24 to Milton . . .	1	30 " 11 "
Lowell R.R. (freight)	Boston to East Cambridge	1	35 " 8 "
" " (passenger)	" " " "	1	35 " 10 "
Malden	Charlestown to Everett .	1	43 " 4 "

Table showing the Widths of Openings, etc. — *Concluded.*

Name of Bridge.	Location.	Number of Openings.	Width.
Meridian st. (East Boston side) . .	East Boston to Chelsea .	2	59 feet 0 inches.
" " (Chelsea side)	" " " "	. .	59 " 0 "
Mt. Washington ave. (Boston side)	Over Fort Point channel.	2	42 " 3 "
" " " (South Boston side) . . .	" " " "	. .	42 " 4 "
Neponset	Ward 24 to Quincy . . .	1	31 " 1 "
New York & New England R.R. (Boston side)	Over Fort Point channel.	2	40 " 9 "
New York & New England R.R. (South Boston side)	" " " "	. .	40 " 10 "
New York & New England R.R. .	Over South Bay	1	28 " 4 "
North Beacon st.	Ward 25 to Watertown .	1	30 " 3 "
North Harvard st.	Ward 25 to Cambridge .	1	31 " 10 "
Old Colony R.R.	Over Fort Point channel.	1	36 " 0 "
" " "	Ward 24 to Quincy . . .	1	35 " 11 "
Prison Point	Charlestown to Cambridge	1	35 " 7 "
Warren	Boston to Charlestown .	1	36 " 3 "
West Boston (Boston side)	Boston to Cambridge . .	2	35 " 8 "
" " (Cambridge side) . .	" " " . .	. .	36 " 0 "
Western ave.	Ward 25 to Cambridge .	1	31 " 3 "
" "	Ward 25 to Watertown .	1	30 " 0 "

APPENDIX C.

List of Culverts and Small Bridges.

Those marked with (*) star are over Stony Brook.

LOCATION.	Span. *Feet.*	Height of Opening. *Feet.*	Length. *Feet.*	Side-walls.	Covering.	Depth of Covering. *Feet.*
*Hyde Park avenue, West Roxbury	19.5	5.0	50	Stone	Wood.	
*Williams street, West Roxbury	15.5	8.0	40	Stone	Wood.	
Baker street at Brook Farm, West Roxbury	15.0	5.0	30	Stone	Wood.	
*Morton street, near Washington, West Roxbury	15.0	10.0	50	Stone arch	Stone	4.0
*Boylston avenue, West Roxbury	15.0	9.5	30	Stone	Wood.	
*Washington street (Musk-Rat Village), West Roxbury	14.0	6.0	40	Stone arch	Stone	4.5
*Neponset avenue, West Roxbury	14.0	6.0	45	Stone arch	Stone	2.5
*Green street at Brookside avenue, West Roxbury	each 10.0	7.0 & 8.0	260	Double stone arch	Stone	4.0
Canterbury street, near Neponset avenue, West Roxbury	10.0	5.0	42	Stone arch	Stone	3.0
*Amory street, near Centre, West Roxbury	each 9.0	each 8.0	35	Double stone arch	Stone	8.0
Blue Hill avenue, near Madison street, Dorchester	9.0	7.0	60	Stone	Wood.	
Preston street, Dorchester	9.0	5.08	40	Wood	Wood and earth.	4.3
Park street, west of O. C. R.R., Dorchester	8.5	5.0	50	Stone	Wood.	
*Mount Hope street, West Roxbury	each 8.0	each 5.0	40	Double stone arch	Stone	3.0
Walk Hill street, near Canterbury, West Roxbury	8.0	4.0	50	Stone arch	Stone	3.0

			361 & 93 each.			
*Hyde Park avenue and Washington street, West Roxbury,	each 8.0	each 7.0	454	Double stone and brick arch . . .	Brick and stone .	5.0
*Ashland street and Canterbury, West Roxbury	7.6	5.5	75	Stone	Wood.	
*Boylston street, at Boylston station, West Roxbury	each 7.0	9.0&8.0	47	Double brick arch .	Brick.	
*Washington street, near Williams, West Roxbury	each 7.0	each 7.0	70	Double stone arch .	Stone	4.5
Poplar street, Roslindale, West Roxbury	7.0	4.0	40	Stone arch	Stone	2.0
*Ashland and Canterbury streets, West Roxbury	7.0	4.0	25	Stone arch	Stone	3.0
Mill street, Dorchester	each 6.75	each 9.5	50	Double stone arch .	Stone	5.0
Tenean street, near Fulton, Dorchester	6.25	6.25	40	Wood	Earth and wood .	6.5
Gardner street, near Cow Island, West Roxbury	5.0	5.5	33	Wood	Wood.	
Perkins street, near Jamaica Pond, West Roxbury	5.0	4.0	40	Stone arch	Stone	4.0
Mount Hope street, West Roxbury	5.0	4.0	40	Stone arch	Stone	2.0
Neponset avenue, 500 ft. from Hyde Park ave., West Roxbury,	5.0	4.0	40	Stone arch	Stone	2.0
Back street, near Morton, Dorchester	5.0	4.0	30	Stone	Stone	2.0
Williams street, West Roxbury	5.0	5.0	50	Wood	Wood.	
Park street, west of Dorchester avenue, Dorchester	5.0	3.67	50	Stone	Wood.	
Adams street, south of Park, Dorchester	5.0	4.0	57	Stone	Stone	5.0
Saratoga street, East Boston	5.0	6.0	50	Oval brick	Brick	6.0
South street, at Arnold Arboretum, West Roxbury	4.5 & 2.0	3.5&1.5	30	Double stone . . .	Brick	1.5 & 3.5
Summer street, near Spring-street station, West Roxbury .	4.0	4.5	40	Stone	Wood.	
Centre street, near Spring, West Roxbury	4.0	4.0	50	Stone	Stone	3.0

List of Culverts and Small Bridges. — *Continued.*

Location.	Span. *Feet.*	Height of Opening. *Feet.*	Length. *Feet.*	Side-walls.	Covering.	Depth of Covering. *Feet.*
Centre street, at Williams farm, West Roxbury	4.0	4.0	50	Stone arch	Stone	4.0
Beech street, near Anawan avenue, West Roxbury	4.0	4.0	50	Stone	Wood.	
Morton street, near Austin farm, West Roxbury	4.0	5.0	50	Stone	Stone	2.0
North Harvard street, near Franklin, Brighton	4.0	2.67	40	Stone	Stone	3.0
Western avenue, near North Harvard street, Brighton	4.0	3.0	60	Stone	Stone	4.0
Parsons street, north of Faneuil, Brighton	4.0	4.0	40	Stone	Stone	15.0
Faneuil street, west of Parsons, Brighton	4.0	4.83	50	Stone arch	Stone	4.0
Brighton avenue, west of Babcock street, Brighton	3.5	3.0	50	Stone	Stone	1.25
Oakland street, south of Faneuil, Brighton	3.5	2.0	40	Stone	Stone	2.0
Faneuil street, junction of Brooks, Brighton	3.5	3.5	130	Stone	Stone	2.5
Lake street, south of Washington, Brighton	3.5	2.0	33	Stone	Stone	3.5
River street, Dorchester	3.25	2.5	50	Stone	Stone	1.25
La Grange street, north-west of Weld, West Roxbury	3.0	1.5	90	Stone	Stone	1.5
La Grange street, corner of Pleasant, West Roxbury	3.0	2.0	70	Stone	Stone	1.0
Walter street, north of Bussey park, West Roxbury	3.0	4.0	60	Stone	Stone	3.0
Ashland street, near Florence, West Roxbury	3.0	3.0	50	Stone	Stone	6.0

Poplar street, 500 feet from Beech, West Roxbury	3.0	1.5	110	Stone	Stone	4.5
Ashland street, 200 feet from Canterbury, West Roxbury	3.0	3.0	50	Stone	Stone	3.0
Brighton avenue, west of Essex street, Brighton	3.0	3.0	50	Wood	Wood and earth	8.0
Everett street, near B. & A. R.R., Brighton	3.0	2.0	65	Stone	Stone	2.0
Washington street, corner Beaumont avenue, Brighton	3.0	3.5	65	Stone	Stone	3.0
Blue Hill avenue, Dorchester	2.75	1.67	225	Stone	Stone	2.0
Harvard avenue, south of Washburn street, Brighton	2.75	3.75	55	Stone	Stone	4.0
Baker street, opposite Prospect avenue, West Roxbury	2.67	2.67	60	Stone	Stone	1.0
Church street, west of Weld, West Roxbury	2.67	4.5	65	Stone	Stone	3.00
Harvard avenue, near Washburn street, Brighton	2.67	3.0	58	Stone	Stone	6.0
Spring street, near Spring-street station, West Roxbury	2.67	2.67	63	Stone	Wood.	
Corey street, near Highland Station, West Roxbury	2.5	3.0	45	Stone	Stone	2.0
Centre street, corner Willow, West Roxbury	2.5	2.5	60	Stone	Stone	4.5
Centre street, near Walter, West Roxbury	2.5	3.0	50	Stone	Stone	5.0
Canterbury street, near Poplar, West Roxbury	2.5	2.5	50	Stone	Stone	8.5
Neponset avenue, Dorchester	2.5	2.5	60	Wood	Earth and wood	7.17
Lake street, opposite Chandler's pond, Brighton	2.5	2.5	33	Stone	Stone	2.0
River street and Blue Hill avenue, Dorchester	2.17	2.75	140	Stone	Stone	4.67
Weld street, near La Grange, West Roxbury	2.0	4.0	30	Stone	Stone	4.0
La Grange street, south-east of Weld, West Roxbury	2.0	3.0	50	Stone	Stone	3.0

List of Culverts and Small Bridges. — *Concluded.*

Location.	Span. *Feet.*	Height of Opening. *Feet.*	Length. *Feet.*	Side-walls.	Covering.	Depth of Covering. *Feet.*
Canterbury street, near Morton, West Roxbury	2.0	3.0	40	Stone	Stone	4.0
La Grange street, opp. Mt. Benedict Cem., West Roxbury	2.0	2.5	50	Stone	Stone	2.0
Centre street, at Williams farm, West Roxbury	1.5	3.0	50	Stone	Stone	5.0
Beech street, near Poplar, West Roxbury	1.5	2.5	40	Stone	Stone	5.0
Texas avenue, off Tremont street	14.0	about 8.0	20	Stone	Wood	3.0

APPENDIX D.

DRAW-TENDERS' REPORTS.

Giving the Number of Vessels passing through the Drawbridges controlled by the City of Boston, during the years 1881, 1882, 1883, 1884, 1885, 1886, 1887.

Name of Bridge.	Steamers.							Sailing Vessels.							Tugs.							All Others.							Total No. of Vessels.							Total for Seven Years. 1881 to 1887, Inclusive.
	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	
Broadway	20	34	34	36	40	54	21	4,201	3,772	3,530	3,905	3,825	3,394	3,188	2,040	2,041	1,843	1,705	1,625	1,440	1,360	180	277	136	245	126	194	194	6,441	6,124	5,543	5,891	5,615	5,082	4,763	39,460
Cambridge Street	6	....	....	....	....	....	....	411	372	398	394	431	476	461	691	577	1,187	878	736	840	783	70	33	1,025	451	28	35	61	1,178	982	2,610	1,723	1,195	1,351	1,305	10,344
Charles River	46	84	60	57	76	86	53	5,868	5,386	5,089	4,851	4,818	5,139	4,785	2,681	2,587	2,446	2,065	1,510	1,745	1,864	741	712	537	506	421	658	889	9,336	8,769	8,132	7,479	6,825	7,628	7,591	55,760
Chelsea (North)	63	125	95	174	191	146	89	910	909	848	866	730	770	786	1,447	1,595	1,784	1,720	1,220	1,330	1,421	446	385	562	433	191	269	338	2,866	3,014	3,289	3,193	2,332	2,515	2,634	19,843
Chelsea (South)	2	7	17	18	10	4	2	1,380	1,188	1,122	1,225	1,100	1,113	1,196	1,912	2,018	2,192	2,609	1,997	2,286	2,678	365	440	502	1,012	509	517	532	3,659	3,653	3,833	4,864	3,616	3,920	4,408	27,953
Chelsea Street	....	....	....	....	....	1	1	....	....	....	....	3	1	12	....	....	3	....	2	1	....	....	....	6	6	1	4	10	....	....	9	6	6	7	23	51
Commercial Point	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	9	5	6	11	10	5	3	9	5	6	11	10	5	3	49
Congress Street	216	254	329	358	390	356	365	7,818	6,667	6,024	6,008	6,173	5,711	5,555	7,778	8,769	8,625	7,122	6,433	6,510	5,944	1,643	2,187	4,021	2,260	1,604	2,243	1,890	17,455	17,877	18,999	15,748	14,600	14,820	13,754	113,253
Dover Street	26	36	32	37	40	53	19	3,447	3,103	2,695	3,013	2,922	2,581	2,671	1,871	1,907	1,658	1,562	1,505	1,352	1,275	229	221	233	314	230	316	206	5,573	5,267	4,618	4,926	4,697	4,302	4,171	33,554
Essex Street	99	1	1	....	....	....	....	443	421	441	437	477	526	512	718	570	1,237	904	781	875	829	42	33	932	427	26	44	42	1,302	1,025	2,611	1,768	1,284	1,445	1,383	10,818
Federal Street	20	34	34	36	37	55	20	4,204	3,735	3,588	3,934	3,854	3,398	3,337	2,203	2,270	2,126	1,931	1,840	1,678	1,530	400	490	256	319	213	344	244	6,827	6,529	6,004	6,220	5,944	5,475	5,131	42,130
Granite	....	....	....	....	....	....	....	104	98	69	94	113	109	109	132	95	120	132	160	170	167	....	....	....	....	....	....	....	236	193	189	226	273	279	276	1,672
Malden	28	16	....	....	....	2	4	393	356	308	424	336	300	298	735	781	894	853	776	752	775	135	120	445	238	303	242	165	1,291	1,273	1,647	1,515	1,415	1,296	1,242	9,679
Meridian Street	88	116	29	27	9	17	25	928	1,038	886	1,054	1,019	1,002	1,063	2,123	2,330	1,869	2,225	2,214	2,109	2,553	767	845	904	803	662	587	719	3,906	4,329	3,688	4,109	3,904	3,715	4,360	28,011
Mt. Washington Avenue	26	51	76	65	64	79	60	5,375	4,816	4,533	4,693	4,681	4,314	4,044	4,879	5,197	5,196	4,603	4,225	4,187	3,923	1,050	1,313	1,939	1,845	1,364	1,115	1,234	11,330	11,377	11,744	11,206	10,334	9,695	9,261	74,947
Neponset	....	....	....	....	....	....	....	135	137	130	156	185	138	222	92	118	126	134	166	174	162	....	2	10	....	8	18	3	227	257	266	290	359	330	387	2,116
No. Beacon Street	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	4	....	2	2	....	1	....	4	....	2	2	....	9
No. Harvard Street	....	....	....	....	....	....	....	136	125	106	119	97	133	159	244	226	937	452	168	264	284	21	26	823	440	11	26	24	401	377	1,866	1,011	276	423	467	4,821
Warren	39	82	61	54	77	82	44	4,877	4,395	4,186	4,095	3,924	4,298	3,933	1,685	1,493	1,204	1,144	680	846	864	603	550	322	354	319	527	905	7,204	6,520	5,773	5,647	5,000	5,753	5,746	41,643
Western Avenue to Cambridge	2	....	....	....	....	....	....	384	341	348	355	383	427	417	654	539	1,136	821	653	769	723	70	32	1,024	467	28	32	57	1,110	912	2,508	1,643	1,064	1,228	1,197	9,662
Western Avenue to Watertown	2	4	....	2	4	....	....	48	64	29	61	33	2	12	37	21	35	36	56	24	25	18	27	22	9	28	18	18	105	116	86	108	121	44	55	635
Totals	683	844	768	864	938	935	703	41,062	36,923	34,330	35,684	35,104	33,832	32,760	31,922	33,134	34,618	30,896	26,747	27,352	27,160	6,790	7,698	13,709	10,140	6,084	7,196	7,534	80,457	78,599	83,425	77,584	68,873	69,315	68,157	526,410

[1] West Boston, Prison Point, and Canal (or Craigie's) Bridges, not included in these tables, being in the care of Commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

APPENDIX E.

List of Tools, etc., at Foundry-st. Yard.

1 Narrow axe.
1 Pick axe.
32 Ship augers.
3 Claw bars.
3 Shackle bars.
7 Stripping bars.
5 Pinch bars.
2 Cant bars.
3 Drift bolts.
29 Paint brushes.
5 Steel brushes.
2 Ice chisels.
2 Cold chisels.
1 Long steel chisel.
2 Iron clamps.
1 Iron chain.
5 Iron dogs.
8 Painters' falls.
12 Fence hangers.
14 Bridge hangers.
6 Rust hammers.
2 Roof hooks.
7 Shooks.
2 Trestles.
4 Triangles.
12 Ladders.
1 Step ladder.
16 Paint pots.
15 Paint scrapers.
462 Feet rope.
4 Hydraulic jacks.
5 Screw jacks.
2 Lockers.
6 Lanterns.
1 Timber truck.
1 Hand-cart.
1 Wheelbarrow.
3 Cross-cut saws.
1 Buck-saw and horse.
1 Top maul.
1 Iron vise.
1 Spur-shore clamp.
6 Snow shovels (steel).
2 Monkey wrenches.
2 Fork wrenches.
1 Concord wagon.
1 Buggy.
2 Harnesses.
1 Horse.
5 Snow shovels (wooden).
4 Snow brooms.

[DOCUMENT 29 — 1889.]

CITY OF BOSTON.

ANNUAL REPORT

OF THE

SUPERINTENDENT OF BRIDGES,

FOR 1888.

BRIDGE DEPARTMENT,
14 BEACON STREET, January 28, 1889.

To the Honorable City Council: —

In accordance with the provisions of the eleventh section of Chapter 45, Revised Ordinances of 1885, the following report of the expenses and operations of the department for the year 1888 is respectfully submitted: —

TIDE-WATER BRIDGES.

Broadway bridge (over Fort Point channel).

Sheathed draw, repaired road-gates, put in new oak headers on draw and fixed part, new deck and sheathing on Foundry-street span, and new sheathing on Old Colony Railroad span: —

Labor . . .	$1,003 75	
Lumber . . .	631 37	
Nails, spikes, etc. .	36 26	
Iron-work . .	50 27	
Services of diver .	22 50	
Sundries . . .	8 65	
	———	$1,752 80
Carried forward,		$1,752 80

Brought forward,		$1,752 80	
Regular expenses: —			
Salaries . . .	$4,806 34		
Supplies . . .	102 35		
Fuel . . .	242 00		
		5,150 69	
			$6,903 49

Cambridge-street bridge (from Brighton to Cambridge).

Sheathed draw and put in new flaps: —

Labor . . .	$53 00		
Lumber . . .	14 08		
Setting buoy . .	51 75		
Sundries . . .	3 60		
		$122 43	
Regular expenses: —			
Salary . . .	$332 28		
Supplies . . .	75		
Fuel . . .	6 60		
		339 63	
			462 06

Charles-river bridge (from Boston to Charlestown).

Sheathed draw and put in new oak headers, repaired water-way, draw, fence, fender-guards, and sidewalk, and put in new truck. Old track stringers taken out and new ones put in under heavy bearing, new steel rail laid, gates repaired, gate-posts reset, painted gates, painted draw-house inside, and reset buoys: —

Labor . . .	$1,781 50		
Lumber . . .	484 49		
Nails, spikes, etc. .	41 89		
Iron-work . .	454 64		
Paint stock . .	7 25		
Resetting buoys .	271 00		
Sundries . . .	23 33		
		$3,064 10	
Regular expenses: —			
Salaries . . .	$3,889 60		
Supplies . . .	390 36		
Carried forward,	$4,279 96	$3,064 10	$7,365 55

Brought forward,	$4,279 96	$3,064 10	$7,365 55
Fuel . . .	624 20		
Watering . . .	275 00		
		5,179 16	
			8,243 26

Chelsea bridge [North] (over North channel, Mystic river).

Repaired sheathing, repaired water-way, sidewalk truss, and stable floor, two new trucks and six new corner irons put in, new oak headers on draw and abutment, four new road-gates built and set, and concrete sidewalk repaired: —

Labor . . .	$1,380 75		
Lumber . . .	336 59		
Nails, spikes, etc. .	38 33		
Iron-work . .	582 85		
Repairing concrete sidewalk . . .	54 75		
Sundries . . .	32 55		
		$2,425 82	

Regular expenses: —

Salaries . . .	$1,794 52		
Supplies . . .	184 84		
Fuel . . .	30 35		
Sundries . . .	307 62		
		2,317 33	
			4,743 15

Chelsea bridge [South] (over South channel, Mystic river).

Sheathed draw, repaired gates, stable, and water-way, new oak headers on draw and abutment, new shaft put in and repaired draw-house, painted office and bed-rooms: —

Labor . . .	$726 50		
Lumber . . .	102 35		
Nails, spikes, etc. .	11 96		
Iron-work . .	179 57		
Sundries . . .	15 67		
		$1,036 05	
Carried forward,		$1,036 05	$20,351 96

Brought forward,		$1,036 05	$20,351 96
Regular expenses: —			
Salaries . . .	$2,492 36		
Supplies . . .	182 54		
Fuel	41 80		
Sundries . . .	85 35		
		2,802 05	
			3,838 10
Chelsea-street bridge (from East Boston to Chelsea).			
Sheathed bridge from draw to abutment, East Boston end, and repaired foundation to the draw: —			
Labor . . .	$101 13		
Lumber . . .	117 27		
Nails, spikes, etc. .	6 75		
Sundries . . .	16 87		
		$242 02	
Regular expenses: —			
Salary		299 00	
			541 02
Commercial Point or Tenean bridge (Ward 24).			
Bridge sheathed and new deck put in: —			
Labor . . .	$310 25		
Lumber . . .	390 11		
Nails, spikes, etc. .	21 55		
Sundries . . .	26 62		
		$748 53	
Regular expenses: —			
Salary		50 00	
			798 53
Congress-street bridge (over Fort Point channel).			
Sheathed draw twice, put in new oak headers on draw and abutment, repaired abutment and piles on city proper end, repaired fence, draw-house, underfloor of roadway, and latches, reshingled boat-house, repaired and reset buoys, portion of planking taken up and space filled in with gravel and paved, four new road-gates built and set, and repaired engine and machinery; also repaired concrete walk: —			
Carried forward,			$25,529 61

Brought forward,			$25,529 61
Labor . . .	$1,745 25		
Lumber . . .	558 66		
Nails, spikes, etc. .	40 31		
Iron-work . . .	976 71		
Resetting buoys .	139 50		
Repairing concrete-walk	14 25		
Paint stock . .	8 80		
Services of diver .	42 50		
Sundries . . .	75 85		
		$3,601 83	
Regular expenses: —			
Salaries . . .	$4,089 28		
Supplies . . .	188 78		
Fuel	356 00		
		4,634 06	
			8,235 89
Dover-street bridge (over Fort Point channel): —			
Sheathed both draws, put in new oak headers on draw and bridge; also new gate-post, built new sidewalks on both draws of hard pine and two new fence-gates, repaired sidewalk of bridge, fences, both stables and shaft, and widened water-way to a clear of thirty-six feet: —			
Labor . . .	$2,150 99		
Lumber . . .	296 87		
Nails, spikes, etc. .	29 46		
Iron-work . .	221 73		
Services of diver .	22 50		
Use of scow, machine, etc. . . .	179 00		
Oak piles . . .	81 [illegible]8		
Sundries . . .	1 20		
		$2,983 53	
Regular expenses: —			
Salaries . . .	$3,841 63		
Supplies . . .	351 42		
Fuel . . .	24 50		
Sundries . . .	41 75		
		4,259 30	
			7,242 83
Carried forward,			$41,008 33

Brought forward,			$41,008 33
Essex-street bridge (from Brighton to Cambridge).			
Sheathed draw and repaired roadway: —			
Labor . . .	$148 00		
Lumber . . .	43 52		
Iron-work . . .	4 43		
Sundries . . .	27 45		
		$223 40	
Regular expenses: —			
Salary . . .	398 84		
Supplies . . .	1 50		
Fuel	12 95		
Sundries . . .	5 63		
		418 92	
			642 32
Federal-street bridge (over Fort Point channel).			
Sheathed both draws twice, put in new oak headers on draw and fixed part, repaired water-way, cracked stringers and caps, both stables, fender-guard; also doors and locks, both sidewalks on draws replanked, sidewalk relaid from stable to South Boston end, put in new angle block on up-stream draw, and built two new road gates on southerly end of draw, and painted draw-house and boat: —			
Labor . . .	$1,677 12		
Lumber . . .	439 52		
Nails, spikes, etc. .	41 21		
Iron-work . . .	157 14		
Paint stock . .	7 00		
Services of diver .	15 00		
Sundries . . .	41 16		
		$2,378 15	
Regular expenses: —			
Salaries . . .	$3,337 16		
Supplies . . .	267 72		
Fuel	39 37		
Sundries . . .	63 00		
		3,707 25	
			6,085 40
Carried forward,			$47,736 05

Brought forward,			$47,736 05
Granite bridge (from Dorchester to Milton).			
Repaired sheathing: —			
Labor		$9 50	
Regular expenses: —			
Salary . . .	$239 20		
Supplies . . .	30		
		239 50	
			249 00
Malden bridge (from Charlestown to Everett).			
Repaired sheathing, put in new oak headers, and repaired water-way, truss, latches, and bumper, and four new road-gates built and set: —			
Labor . . .	$699 50		
Lumber . . .	97 79		
Nails, spikes, etc. .	24 24		
Iron-work . . .	406 48		
Sundries . . .	82 53		
		$1,310 54	
Regular expenses: —			
Salaries . . .	$1,496 04		
Supplies . . .	24 58		
Fuel . . .	24 20		
		1,544 82	
			2,855 36
Meridian-street bridge (from East Boston to Chelsea).			
Repaired water-way, draw, pier, and draw-house, reset buoy, adjusted draw, and put in new angle blocks; also four new road-gates built and set, and painted boat: —			
Labor . . .	$1,200 75		
Lumber . . .	150 78		
Nails, spikes, etc. .	39 18		
Iron-work . . .	564 32		
Resetting buoy . .	60 00		
Sundries . . .	114 21		
		$2,129 24	
Regular expenses: —			
Salaries . . .	$1,590 43		
Supplies . . .	162 83		
Carried forward,	$1,753 26	$2,129 24	$50,840 41

Brought forward,	$1,753 26	$2,129 24	$50,840 41
Fuel	38 48		
Sundries . . .	66 90		
		1,858 64	
			3,987 88

Mt. Washington-avenue bridge (over Fort Point channel).

Sheathed draw, put in new oak headers on draw and fixed part, repaired water-way, reset buoys, and four new road-gates built and set, and painted draw-house and boat: —

Labor . . .	$1,146 86		
Lumber . . .	239 79		
Nails, spikes, etc. .	26 16		
Iron-work . . .	613 76		
Paint stock . .	6 00		
Resetting buoys . .	107 00		
Sundries . . .	22 85		
		$2,162 42	
Regular expenses: —			
Salaries . . .	$4,085 44		
Supplies . . .	32 51		
Fuel	33 85		
Rent of land . .	60 00		
Sundries . . .	8 80		
		4,220 60	
			6,383 02

Neponset bridge (from Dorchester to Quincy).

Sheathed bridge and draw, patched under-floor, and repaired shaft boxes.

Labor . . .	$105 00		
Lumber . . .	107 09		
Nails, spikes, etc. .	5 75		
Iron-work . . .	8 40		
Sundries . . .	9 52		
		$235 76	
Regular expenses: —			
Salary . . .	$398 84		
Supplies . . .	1 62		
		400 46	
			636 22
Carried forward,			$61,847 53

Brought forward,			$61,847 53
North Beacon street bridge (from Brighton to Watertown).			
Repaired sheathing and adjusted draw: —			
Labor . . .	$12 25		
Sundries . . .	1 15		
		$13 40	
Regular expenses: —			
Salary		74 88	
			88 28
North Harvard-street bridge (from Brighton to Cambridge).			
Sheathed draw, and put on new flaps: —			
Labor . . .	$43 50		
Lumber . .	20 84		
Nails, spikes, etc. .	45		
Sundries . . .	4 40		
		$69 19	
Regular expenses: —			
Salary		332 28	
			401 47
Warren bridge (from Boston to Charlestown).			
Sheathed both draws twice and put in new oak headers on draws and abutment, repaired fence, trimmed draws and abutment, repaired eight gates, two of which were nearly rebuilt, patched roof, repaired skiver for winch, rehung doors of winch-house, and repaired engine and drum, and put in new cable; also cleaned and painted top and underside of bridge two coats, painted boiler, engine-room, and boiler-room: —			
Labor . . .	$1,628 00		
Lumber . . .	311 59		
Nails, spikes, etc. .	24 25		
Iron-work . . .	266 42		
Paint stock . .	169 30		
Sundries . . .	71 50		
		$2,471 06	
Carried forward,		$2,471 06	$62,337 28

Brought forward,		$2,471 06	$62,337 28
Regular expenses: —			
Salaries . . .	$4,587 96		
Supplies . . .	204 21		
Fuel . . .	735 00		
Watering . .	412 50		
		5,939 67	
			8,410 73
Western-avenue bridge (from Brighton to Cambridge): —			
Sheathed bridge and draw, repaired fence and shaft, and put on new flaps to draw, and reset buoy: —			
Labor . . .	$123 25		
Lumber . . .	99 88		
Nails, spikes, etc. .	13 13		
Iron-work . . .	9 07		
Resetting buoy . .	51 75		
Sundries . .	8 55		
		$305 63	
Regular expenses: —			
Salary . . .	$332 28		
Supplies . . .	3 26		
		335 54	
			641 17
Western-avenue bridge (from Brighton to Watertown).			
Sheathed bridge and draw, relaid part of underfloor, repaired flaps and latches, strengthened pier, and replanked water-way: —			
Labor . . .	$313 25		
Lumber . . .	242 96		
Nails, spikes, etc. .	30 34		
Iron-work . . .	19 61		
Sundries . . .	21 95		
		$628 11	
Regular expenses: —			
Salary . . .	$74 88		
Supplies . . .	5 58		
		80 46	
			708 57
Carried forward,			$72,097 75

Brought forward,			$72,097 75
Winthrop bridge (from Breed's Island to Winthrop).			
Repaired sheathing and fence: —			
Labor . . .	$4 00		
Lumber . . .	3 80		
Sundries . . .	20		
		$8 00	
Regular expenses: —			
Salary		100 00	
			108 00
			$72,205 75

INLAND BRIDGES.

Albany-street bridge (over Boston and Albany Railroad).		
Repaired sheathing and put in points on truss: —		
Labor	$44 75	
Lumber	9 23	
Iron-work	58 56	
		$112 54
Berkeley-street bridge (over Boston and Albany Railroad).		
Repaired sidewalk and cleaned and painted top of bridge two coats: —		
Labor	$173 00	
Lumber	70	
Nails, spikes, etc. . . .	80	
Paint stock	18 75	
		193 25
Berkeley-street bridge (over Old Colony Railroad, Providence Division).		
Sidewalk repaired with new stringers and plank, new concrete sidewalk laid on easterly side and portion of westerly side, repaired wheel-guard, and cleaned and painted underside of bridge one coat, and painted fence two coats: —		
Labor	$2,226 24	
Lumber	557 24	
Carried forward,	$2,783 48	$305 79

Brought forward,	$2,783 48	$305 79
Nails, spikes, etc.	44 24	
Iron-work	5 10	
Paint stock	177 38	
Repairing concrete walk . .	495 00	
Sundries	38 45	
		3,543 65
Blakemore-street bridge (over Old Colony Railroad, Providence Division.)		
Sheathed bridge: —		
Labor	$49 75	
Lumber	53 28	
Nails, spikes, etc.	2 25	
Sundries	2 73	
		108 01
Brookline-avenue bridge (over Boston and Albany Railroad).		
Sheathed bridge, and cleaned and painted bridge underneath two coats: —		
Labor	$402 75	
Lumber	102 88	
Nails, spikes, etc.	4 50	
Paint stock	114 81	
Sundries	40	
		625 34
Central-avenue bridge (from Dorchester to Milton).		
Sheathed bridge and laid new underfloor in part: —		
Labor	$77 25	
Lumber	148 37	
Nails, spikes, etc.	2 25	
Sundries	6 87	
		234 74
Columbus-avenue bridge (over Boston and Albany Railroad).		
Sheathed both roadways, cleaned and painted top of bridge two coats: —		
Labor	$388 25	
Lumber	87 53	
Nails, spikes, etc.	2 25	
Paint stock	40 75	
		518 78
Carried forward,		$5,336 31

Brought forward,		$5,336 31
Dartmouth-street bridge (over Boston and Albany Railroad and Providence Division of Old Colony Railroad).		
New hard pine sidewalk laid and timbers repaired: —		
Labor	$293 25	
Lumber	377 46	
Nails, spikes, etc.	9 30	
Iron-work	50	
		680 51
Ferdinand-street bridge (over Boston and Albany Railroad).		
Trusses straightened, strengthened and set up, new sidewalk laid, roadway repaired, top of bridge painted one coat, and fence two coats: —		
Labor	$448 50	
Lumber	136 89	
Nails, spikes, etc.	10 61	
Iron-work	10 60	
Paint stock	26 20	
		632 80
Longwood-avenue bridge (from Ward 22 to Brookline).		
Sheathed bridge, and repaired wheel-guard and sidewalk: —		
Labor	$62 25	
Lumber	100 57	
Nails, spikes, etc.	8 43	
Iron-work	4 30	
Sundries	2 16	
		177 71
Mattapan bridge (from Dorchester to Milton).		
Sheathed bridge, laid new underfloor and sidewalk, and repaired stringers: —		
Labor	$66 75	
Lumber	83 40	
Nails, spikes, etc.	4 90	
Iron-work	1 50	
Sundries	4 66	
		161 21
Carried forward,		$6,988 54

Brought forward,		$6,988 54
Milton bridge (from Dorchester to Milton).		
New sidewalks laid of seasoned spruce, and timbers repaired: —		
Labor	$135 50	
Lumber	119 08	
Nails, spikes, etc.	2 25	
Sundries	11 65	
		268 48
Shawmut-avenue bridge (over Boston and Albany Railroad).		
Sheathed westerly driveway and between railroad tracks, repaired easterly sidewalk and timbers where needed: —		
Labor	$159 25	
Lumber	87 79	
Nails, spikes, etc.	5 00	
Iron-work	1 75	
		253 79
Swett-street bridges (east and west of New York and New England Railroad).		
New decks put in and new stringers where needed: —		
Labor	$772 75	
Lumber	785 79	
Nails, spikes, etc.	38 45	
Iron-work	19 66	
Sundries	1 92	
		1,618 57
West Chester park bridge (over Boston and Albany Railroad).		
Sheathed bridge, and cleaned and painted top and underside of bridge two coats: —		
Labor	$356 00	
Lumber	120 79	
Nails, spikes, etc.	4 75	
Paint stock	26 00	
		507 54
West Chester park bridge (over Old Colony Railroad, Providence Division).		
Sheathed both driveways, and cleaned and painted top and underside of bridge two coats: —		
Carried forward,		$9,636 92

Brought forward,		$9,636 92
Labor	$600 25	
Lumber	78 66	
Nails, spikes, etc. . . .	4 75	
Also paint (from stock).		
		683 66
West Newton-street bridge (over Boston & Albany Railroad).		
Sheathed bridge, and cleaned and painted top and underside of bridge two coats: —		
Labor	$314 25	
Lumber	85 55	
Nails, spikes, etc. . . .	5 00	
Paint stock	88 97	
		493 77
Repairing bridges, not included in work enumerated elsewhere: —		
Labor	$221 75	
Lumber	48 96	
Nails, spikes, etc. . . .	4 75	
Sundries	90 11	
		365 57
		$11,179 92

MISCELLANEOUS.

Board of horse	$294 93
City Engineer, horse-hire, and car-fares for .	34 50
Execution of court [accident at Albany-street bridge in 1881].	138 89
Execution of court [accident at Albany-street bridge in 1887, while new bridge was being built]	822 24
Feed for stable at yard	166 14
Fuel at yard	37 53
Harness, repairs, etc.	25 25
Horse-shoeing	36 75
Mare and express wagon	250 00
Printing and stationery	274 94
Removing snow from sundry bridges . .	423 75
Repairing buildings at yard	154 00
Carried forward,	$2,658 92

Brought forward,	$2,658 92
Repairing wagon and buggy . . .	154 18
Salaries of superintendent and clerks . .	5,100 00
Storekeeper	858 00
Sundry bridge supplies expended . . .	215 50
Sundry bridge supplies [in stock] . .	135 62
Sundry office expenses	34 35
Sundry yard expenses	26 65
Teamster	773 75
Telephones, expense of	260 00
Tools, etc., for carpenters	148 63
Tools, etc., for painters	112 07
Watchman	637 50
Water for stable	15 00
	$11,130 17

BUILDING AND REPAIRS OF CULVERTS.

[Special appropriation.]

Labor	$428 50	
Lumber	115 71	
Nails, spikes, etc. . . .	5 41	
Sundries	47 92	
		$597 54

RECAPITULATION.

Table showing expenditures on the Tide-water Bridges for the year 1888.

Name of Bridge.	Regular expenses, salaries, fuel, and all small supplies.	Repairs, lumber, iron-work, painting, and labor.	Total.
Broadway	$5,150 69	$1,752 80	$6,903 49
Cambridge-street	339 63	122 43	462 06
Charles-river	5,179 16	3,064 10	8,243 26
Chelsea (North)	2,317 33	2,425 82	4,743 15
Chelsea (South)	2,802 05	1,036 05	3,838 10
Chelsea-street	299 00	242 02	541 02
Commercial-point	50 00	748 53	798 53
Congress-street	4,634 06	3,601 83	8,235 89
Dover-street	4,259 30	2,983 53	7,242 83
Essex-street	418 92	223 40	642 32
Federal-street	3,707 25	2,378 15	6,085 40
Granite	239 50	9 50	249 00
Malden	1,544 82	1,310 54	2,855 36
Meridian-street	1,858 64	2,129 24	3,987 88
Mt. Washington-avenue	4,220 60	2,162 42	6,383 02
Neponset	400 46	235 76	636 22
North Beacon-street	74 88	13 40	88 28
North Harvard-street	332 28	69 19	401 47
Warren	5,939 67	2,471 06	8,410 73
Western avenue (to Cambridge)	335 54	305 63	641 17
Western avenue (to Watertown)	80 46	628 11	708 57
Winthrop	100 00	8 00	108 00
Totals	$44,284 24	$27,921 51	$72,205 75

Table showing Expenditures on the Inland Bridges during the year 1888: —

Name of Bridge.	Repairs, lumber, iron-work, painting, and labor.
Albany-street	$112 54
Berkeley-street (over B. & A. R.R.)	193 25
Berkeley-street (over Providence Division O. C. R.R.)	3,543 65
Blakemore-street	108 01
Brookline-avenue	625 34
Central-avenue	234 74
Columbus-avenue	518 78
Dartmouth-street	680 51
Ferdinand-street	632 80
Longwood-avenue	177 71
Milton	268 48
Mattapan	161 21
Shawmut-avenue	253 79
Swett-street (east and west of N.Y. & N.E. R.R)	1,618 57
West Chester-park (over B. & A. R.R.)	507 54
West Chester-park (over Providence Division, O. C. R.R.)	683 66
West Newton-street	493 77
Repairing bridges	365 57
Total	$11,179 92

Expenditures on tide-water bridges	$72,205 75
" " inland bridges	11,179 92
Miscellaneous	11,130 17
	$94,515 84
Building and repairs of culverts	597 54
Total	$95,113 38

GENERAL SUMMARY OF EXPENDITURES.

Salaries	$38,643 24
Labor	23,585 09
Miscellaneous	11,130 17
Lumber	7,789 23
Carried forward,	$81,147 73

Brought forward,	$81,147 73
Iron-work	4,617 37
Sundries	3,751 51
Fuel	2,209 30
Supplies	2,105 15
Paint-stock	691 21
Nails, spikes, etc.	591 11
Total	$95,113 38

Balance of regular appropriation on hand January 1, 1888, was	$18,638 89
Transfer, "New Road Gates"	2,500 00
Transferred from Police Department	337 64
Total	$21,476 53
Amount expended May 1, 1888	20,702 60
Balance "New Roads Gates"	$773 93

Appropriation for 1888–9 was	$90,000 00
Special appropriation "Building and Repairs of Culverts"	2,500 00
Balance, "New Road Gates"	773 93
Total	$93,273 93
Amount expended of same Jan. 1, 1889, was	74,410 78
Balance on hand Jan. 1, 1889, was	$18,863 15
Divided as follows: —	
Regular appropriation	$16,960 69
Special "Building and Repairs of Culverts"	1,902 46

Amount expended from appropriation and transfers 1887–8 was	$20,702 60
Amount expended from appropriations and transfer 1888–9 was	74,410 78
Total expended from Jan. 1, 1888, to Jan. 1, 1889	$95,113 38

I. — Bridges wholly supported by Boston.

In the list those marked with an asterisk are over navigable waters, and are each provided with a draw.

Agassiz, in Back-Bay Fens.
Ashland street, Ward 23, over Old Colony Railroad, Providence Division.
Athens street, over N.Y. & N.E. Railroad.
Beacon Entrance, Back-Bay Fens, over Boston & Albany Railroad.
Beacon street, over outlet to Back-Bay Fens pond.
Beacon street, over Boston & Albany Railroad.
Berkeley street, over Boston & Albany Railroad.
Berkeley street, over Old Colony Railroad, Providence Division.
Blakemore street, over Old Colony Railroad, Providence Division, Ward 23.
Boylston street, over Boston & Albany Railroad.
Boylston street, over outlet to Back-Bay Fens pond.
*Broadway, over Fort Point Channel.
Broadway, over Boston & Albany Railroad.
Brookline avenue, over Boston & Albany Railroad,
*Charles river, from Boston to Charlestown.
*Chelsea (South), over South Channel, Mystic river.
*Chelsea street, from East Boston to Chelsea.
Columbus avenue, over Boston & Albany Railroad.
*Commercial Point, or Tenean, Ward 24.
Commonwealth avenue, over outlet to Back-Bay Fens pond.
*Congress street, over Fort Point Channel.
Dartmouth street, over Boston & Albany, and Providence Division, Old Colony Railroad.
*Dover street, over Fort Point Channel.
*Federal street, over Fort Point Channel.
Ferdinand street, over Boston & Albany Railroad.
Franklin-street foot-bridge, over Boston & Albany Railroad.
Huntington avenue, over Boston & Albany Railroad.
Linden Park street, over Stony brook.
*Malden, from Charlestown to Everett.
*Meridian street, from East Boston to Chelsea.
*Mt. Washington avenue, over Fort Point Channel.
Public-Garden foot-bridge.
Shawmut avenue, over Boston & Albany Railroad.
Swett street, east of N.Y. & N.E. Railroad.
Swett street, west of N.Y. & N.E. Railroad.

*Warren, from Boston to Charlestown.
West Chester park, over Boston & Albany Railroad.
West Chester park, over Old Colony Railroad, Providence Division.
West Newton street, over Old Colony Railroad, Providence Division.
West Rutland-square foot-bridge, over Old Colony Railroad, Providence Division.
Winthrop, from Breed's Island to Winthrop.
Wood Island park, Ward 1, over Boston, Revere Beach, & Lynn Railroad.

II. — BRIDGES OF WHICH BOSTON SUPPORTS THE PART WITHIN ITS LIMITS.

*Cambridge street, from Brighton to Cambridge.
Central avenue, from Ward 24 to Milton.
*Chelsea (North), from Charlestown to Chelsea.
*Essex street, from Brighton to Cambridge.
*Granite, from Dorchester, Ward 24, to Milton.
Longwood avenue, from Ward 22 to Brookline.
Mattapan, from Ward 24 to Milton.
Milton, from Ward 24 to Milton.
*Neponset, from Ward 24 to Quincy.
*North Beacon street, from Brighton to Watertown.
*North Harvard street, from Brighton to Cambridge.
Spring street, from West Roxbury to Dedham.
*Western avenue, from Brighton to Cambridge.
*Western avenue, from Brighton to Watertown.

III. — BRIDGES OF WHICH BOSTON PAYS A PART OF THE COST OF MAINTENANCE.

Albany street, over Boston & Albany Railroad.
Dorchester street, over Old Colony Railroad, Central Division.
*Canal, from Boston to Cambridge.
*Prison Point, from Charlestown to Cambridge.
*West Boston, from Boston to Cambridge.

The last three bridges are in the care of Commissioners, who make an annual report to the City Council.

IV. — Bridges supported by Railroad Corporations.

1st. — Boston & Albany Railroad.

Commonwealth avenue, Brighton.
Harrison avenue.
Market street, Brighton.
Tremont street.
Washington street.

2d. — Boston & Maine Railroad, Eastern Division.

Mystic avenue.
Main street.

3d. — Boston & Maine Railroad, Western Division.

Mystic avenue.
Main street.

4th. — Boston, Revere Beach, & Lynn Railroad.

Everett street.

5th. — New York & New England Railroad.

Broadway.
Dorchester avenue.
Fifth street.
Forest Hills avenue, Ward 24.
Fourth street.
Harvard street, Ward 24.
Norfolk " "
Norfolk " "
Second street.
Silver street.
Sixth street.
Third street.
Washington street, Ward 24.

6th. — Old Colony Railroad, Central Division.

Adams street.
Ashmont street and Dorchester avenue.
Cedar Grove Cemetery.
Commercial street.
Savin Hill avenue.

7th. — Old Colony Railroad, Providence Division.

Beech street, Ward 23.
Bellevue street, Ward 23.
Canterbury street, Ward 23.
Centre street, or Hog Bridge, Ward 23.
Centre and Mt. Vernon streets, Ward 23.
Dudley avenue, Ward 23.
Park street, Ward 23.

RECAPITULATION.

I.	Number wholly supported by Boston . .	42
II.	Number of which Boston supports the part within its limits	14
III.	Number of which Boston pays a part of the cost of maintenance	5
IV.	Number supported by Railroad Corporations: —	
1.	Boston & Albany	5
2.	Boston & Maine, Eastern Div. . . .	2
3.	" " Western Div. . . .	2
4.	Boston, Revere Beach, & Lynn . . .	1
5.	New York & New England	13
6.	Old Colony, Central Div.	5
7.	" " Providence Div.	7
	Total number	96

The existing regulations for the passage of vessels through drawbridges have been posted on the several bridges, as required by law.

The records of the number of draw openings, vessels passing through the draw-ways, time of passage, kind of vessels, etc., as kept by the draw-tenders of the several bridges, have been tabulated, and the totals are given in the summary, which will be found in Appendices A and D.

A list of widths of openings for vessels in all bridges provided with draws in the city will be found in Appendix B.

The widths of the openings were measured by the City Engineer.

A list of culverts and small bridges will be found in Appendix C.

Appendix E contains a list of tools, etc., at Foundry-st. yard.

BARTHOLOMEW M. YOUNG,
Superintendent of Bridges.

APPENDICES.

APPENDIX A.

DRAW-TENDERS' REPORTS.

Giving the Number of Vessels passing through the Drawbridges controlled by the City of Boston during the year 1888.

Name of Bridge.	Steamers.			Sailing Vessels.			Tugs.			All Others.			Total No. Vessels.			No. of Draw Openings.
	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	
Broadway	13	1	14	2,190	978	3,168	1,361	217	1,578	163	43	206	3,727	1,239	4,966	3,800
Cambridge Street	2	.....	2	499	35	534	887	57	944	79	1	80	1,467	93	1,560	982
Charles River	23	7	30	3,192	1,561	4,753	1,708	410	2,118	550	259	809	5,473	2,237	7,710	6,153
Chelsea (North)	192	37	229	1,530	376	1,906	2,608	655	3,263	711	259	970	5,041	1,327	6,368	4,764
Chelsea (South)	.....	.....	.....	991	95	1,086	2,734	390	3,124	840	110	950	4,565	595	5,160	3,238
Chelsea Street	.....	.....	.....	2	.....	2	.....	.....	.....	10	.....	10	12	.....	12	12
Commercial Point	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	1	1
Congress Street	280	111	391	4,065	1,272	5,337	5,095	1,217	6,312	1,241	358	1,599	10,681	2,958	13,639	8,064
Dover Street	11	3	14	1,881	860	2,741	1,214	244	1,458	138	47	185	3,244	1,154	4,398	3,591
Essex Street	4	.....	4	522	70	592	898	95	993	62	.....	62	1,486	165	1,651	1,019

Federal Street	13	1	14	2,321	1,069	3,390	1,501	307	1,808	230	75	305	4,065	1,452	5,517	4,499
Granite	....	....	....	133	8	141	241	5	246	....	....	....	374	13	387	262
Malden	....	....	....	341	45	386	880	82	962	304	81	385	1,525	208	1,733	1,046
Meridian Street	63	12	75	894	111	1,005	2,514	220	2,734	747	87	834	4,218	430	4,648	2,739
Mt. Washington Avenue	60	3	63	2,848	1,097	3,945	3,492	780	4,272	960	251	1,211	7,360	2,131	9,491	7,002
Neponset	....	....	....	199	34	233	245	7	252	20	1	21	464	42	506	372
North Beacon Street	....	....	....	2	....	2	....	....	....	....	....	....	2	....	2	2
North Harvard Street	....	....	....	161	8	169	295	22	317	27	1	28	483	31	514	324
Warren	18	28	46	1,675	2,555	4,230	618	347	965	372	219	591	2,683	3,149	5,832	5,314
Western Ave. to Cambridge	2	....	2	430	35	465	795	49	844	38	1	39	1,265	85	1,350	851
Western Ave. to Watertown	....	....	....	4	....	4	22	....	22	16	....	16	42	....	42	42
Totals	681	203	884	23,880	10,209	34,089	27,108	5,104	32,212	6,509	1,793	8,302	58,178	17,309	75,487	54,077

NOTE. — West Boston, Prison Point, and Canal (or Craigie's) Bridges, not included in these tables, being in the care of Commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

APPENDIX B.

Table showing the Widths of Openings for Vessels in all Bridges, provided with Draws, in the City of Boston, January, 1888.

Name of Bridge.	Location.	Number of Openings.	Width.
Boston & Maine R.R., Eastern Division	Boston to Charlestown	1	35 feet 10 inches.
Boston & Maine R.R., Eastern Division	Over Miller's river	1	35 " 7 "
Boston & Maine R.R. (freight) Lowell Division	Boston to East Cambridge	1	35 " 8 "
Boston & Maine R.R. (passenger) Lowell Division	" " " "	1	35 " 10 "
Boston & Maine R.R., Western Division	Boston to Charlestown	1	35 " 3 "
Boston & Maine R.R., Western Division	Over Miller's river	1	35 " 7 "
Broadway	Over Fort Point channel	1	43 " 3 "
Cambridge st.	Ward 25 to Cambridge	1	30 " 5 "
Canal (or Craigie's)	Boston to East Cambridge	1	35 " 10 "
Charles river	Boston to Charlestown	1	36 " 0 "
Chelsea (south channel)	Charlestown to Chelsea	1	38 " 8 "
Chelsea (north channel)	" " "	1	44 " 6 "
Chelsea st. (East Boston side)	East Boston to Chelsea	2	33 " 0 "
" " (Chelsea side)	" " " "	..	34 " 3 "
Commercial Point (or Tenean)	Ward 24	1	24 " 0 "
Congress st. (Boston side)	Over Fort Point channel	2	43 " 3 "
" " (South Boston side)	" " " "	..	43 " 11 "
Dover st.	" " " "	1	36 " 0 "
Essex st.	Ward 25 to Cambridge	1	30 " 11 "
Federal st.	Over Fort Point channel	1	36 " 0 "
Fitchburg R.R.	Boston to Charlestown	1	36 " 0 "
" " (for teaming freights)	" " "	1	36 " 0 "

Table showing Width of Openings, etc. — *Concluded.*

Name of Bridge.	Location.	Number of Openings.	Width.
Grand Junction R.R.	Ward 25 to Cambridge .	1	32 feet 2 inches.
" " "	East Boston to Chelsea .	1	34 " 6 "
Granite	Ward 24 to Milton . . .	1	30 " 11 "
Malden	Charlestown to Everett .	1	43 " 4 "
Meridian st. (East Boston side) . .	East Boston to Chelsea .	2	59 " 0 "
" " (Chelsea side)	" " " "	. .	59 " 0 "
Mt. Washington ave. (Boston side)	Over Fort Point channel	2	42 " 3 "
" " " (South Boston side) . . .	" " " "	. .	42 " 4 "
Neponset	Ward 24 to Quincy . . .	1	31 " 1 "
New York & New England R.R. (Boston side)	Over Fort Point channel	2	40 " 9 "
New York & New England R.R. (South Boston side)	" " " "	. .	40 " 10 "
New York & New England R.R. . .	Over South Bay	1	28 " 4 "
North Beacon st.	Ward 25 to Watertown .	1	30 " 2 "
North Harvard st.	Ward 25 to Cambridge .	1	31 " 10 "
Old Colony R.R.	Over Fort Point channel	1	36 " 0 "
" " "	Ward 24 to Quincy . . .	1	35 " 11 "
Prison Point	Charlestown to Cambridge	1	35 " 7 "
Warren	Boston to Charlestown .	1	36 " 3 "
West Boston (Boston side)	Boston to Cambridge . .	2	35 " 8 "
" " (Cambridge side) . . .	" " "	. .	36 " 0 "
Western ave.	Ward 25 to Cambridge .	1	31 " 3 "
" "	Ward 25 to Watertown .	1	30 " 0 "

APPENDIX C.

List of Culverts and Small Bridges.

Those marked with (*) star are over Stony Brook.

Location.	Span. *Feet.*	Height of Opening. *Feet.*	Length. *Feet.*	Side-walls.	Covering.	Depth of Covering. *Feet.*
Adams street, south of Park, Dorchester	5.0	4.0	57	Stone	Stone	5.0
*Amory street, near Centre, West Roxbury	each 9.0	each 8.0	35	Double stone arch	Stone	8.0
*Ashland and Canterbury streets, West Roxbury	7.0	4.0	25	Stone arch	Stone	3.0
*Ashland street and Canterbury, West Roxbury	7.6	5.5	75	Stone	Wood	
Ashland street, near Florence, West Roxbury	3.0	3.0	50	Stone	Stone	6.0
Ashland street, 200 feet from Canterbury, West Roxbury	3.0	3.0	50	Stone	Stone	3.0
Back street, near Morton, Dorchester	5.0	4.0	30	Stone	Stone	2.0
Baker street, at Brook Farm, West Roxbury	15.0	5.0	30	Stone	Wood.	
Baker street, opposite Prospect avenue, West Roxbury	2.67	2.67	60	Stone	Stone	1.0
Beech street, near Anawan avenue, West Roxbury	4.0	4.0	50	Stone	Wood.	
Beech street, near Poplar, West Roxbury	1.5	2.5	40	Stone	Stone	5.0
Blue Hill avenue, Dorchester	2.75	1.67	225	Stone	Stone	2.0
Blue Hill avenue, near Madison street, Dorchester	9.0	7.0	60	Stone	Wood	
*Boylston avenue, West Roxbury	15.0	9.5	30	Stone	Wood.	

*Boylston street, at Boylston station, West Roxbury	each 7.0	9.0&8.0	47	Double brick arch .	Brick	
Brighton avenue, west of Babcock street, Brighton	3.5	3.0	50	Stone	Stone	1.25
Brighton avenue, west of Essex street, Brighton	3.0	3.0	50	Wood	Wood and earth	8.0
Canterbury street, near Morton, West Roxbury	2.0	3.0	40	Stone	Stone	4.0
Canterbury street, near Neponset avenue, West Roxbury . .	10.0	5.0	42	Stone arch	Stone	3.0
Canterbury street, near Poplar, West Roxbury	2.5	2.5	50	Stone	Stone	8.5
Centre street, near Spring, West Roxbury	4.0	4.0	50	Stone	Stone	3.0
Centre street, near Walter, West Roxbury	2.5	3.0	50	Stone	Stone	5.0
Centre street, at Williams farm, West Roxbury	4.0	4.0	50	Stone arch	Stone	4.0
Centre street, at Williams farm, West Roxbury	1.5	3.0	50	Stone	Stone	5.0
Centre street, corner Willow, West Roxbury	2.5	2.5	60	Stone	Stone	4.5
Church street, west of Weld, West Roxbury	2.67	4.5	65	Stone	Stone	3.00
Corey street, near Highland station, West Roxbury	2.5	3.0	45	Stone	Stone	2.0
Everett street, near B. & A. R.R., Brighton	3.0	2.0	65	Stone	Stone	2.0
Faneuil street, junction of Brooks, Brighton	3.5	3.5	130	Stone	Stone	2.5
Faneuil street, west of Parsons, Brighton	4.0	4.83	50	Stone arch	Stone	4.0
Gardner street, near Cow Island, West Roxbury	5.0	5.5	33	Wood	Wood.	
*Green street, at Brookside avenue, West Roxbury	each 10.0	7.0 & 8.0	260	Double stone arch .	Stone	4.0
Harvard avenue, near Washburn street, Brighton	2.67	3.0	58	Stone	Stone	6.0
Harvard avenue, south of Washburn street, Brighton . . .	2.75	3.75	55	Stone	Stone	4.0

List of Culverts or Small Bridges. — *Continued.*

Location.	Span. *Feet.*	Height of Opening. *Feet.*	Length. *Feet.*	Side-walls.	Covering.	Depth of Covering. *Feet.*
*Hyde Park avenue and Washington street, West Roxbury,	each 8.0	each 7.0	361 & 93 each. 454	Double stone and brick arch . . .	Brick and stone .	5.0
*Hyde Park avenue, West Roxbury	19.5		50	Stone	Wood.	
La Grange street, corner of Pleasant, West Roxbury . . .	3.0	2.0	70	Stone	Stone	1.0
La Grange street, north-west of Weld, West Roxbury . . .	3.0	1.5	90	Stone	Stone	1.5
La Grange street, opp. Mt. Benedict Cem., West Roxbury .	2.0	2.5	50	Stone	Stone	2.0
La Grange street, south-east of Weld, West Roxbury . . .	2.0	3.0	50	Stone	Stone	3.0
Lake street, opposite Chandler's pond, Brighton	2.5	2.5	33	Stone	Stone	2.0
Lake street, south of Washington, Brighton	3.5	2.0	33	Stone	Stone	3.5
Mill street, Dorchester	each 6.75	each 9.5	50	Double stone arch .	Stone	5.0
Morton street, near Austin farm, West Roxbury	4.0	5.0	50	Stone	Stone	2.0
*Morton street, near Washington, West Roxbury	15.0	10.0	50	Stone arch	Stone	4.0
*Mount Hope street, West Roxbury	each 8.0	each 5.0	40	Double stone arch .	Stone	3.0
Mount Hope street, West Roxbury	5.0	4.0	40	Stone arch	Stone	2.0
Neponset avenue, Dorchester	2.5	2.5	60	Wood	Earth and wood .	7.17
Neponset avenue, 500 ft. from Hyde Park ave., West Roxbury,	5.0	4.0	40	Stone arch	Stone	2.0
*Neponset avenue, West Roxbury	14.0	6.0	45	Stone arch	Stone	2.5

North Harvard street, near Franklin, Brighton	4.0	2.67	40	Stone	Stone	3.0
Oakland street, south of Faneuil, Brighton	3.5	2.0	40	Stone	Stone	2.0
Park street, west of Dorchester avenue, Dorchester	5.0	3.67	50	Stone	Wood.	
Park street, west of O.C.R.R., Dorchester	8.5	5.0	50	Stone	Wood.	
Parsons street, north of Faneuil, Brighton	4.0	4.0	40	Stone	Stone	15.0
Perkins street, near Jamaica Pond, West Roxbury	5.0	4.0	40	Stone arch	Stone	4.0
Poplar street, 500 feet from Beech, West Roxbury	3.0	1.5	110	Stone	Stone	4.5
Poplar street, Roslindale, West Roxbury	7.0	4.0	40	Stone arch	Stone	2.0
Preston street, Dorchester	9.0	5.08	40	Wood	Wood and earth	4.3
River street and Blue Hill avenue, Dorchester	2.17	2.75	140	Stone	Stone	4.67
River street, Dorchester	3.25	2.5	50	Stone	Stone	1.25
Saratoga street, East Boston	5.0	6.0	50	Oval brick	Brick	6.0
South street, at Arnold Arboretum, West Roxbury	4.5&2.0	3.5&1.5	30	Double stone	Brick	1.5 & 3.5
Spring street, near Spring-street station, West Roxbury	2.67	2.67	63	Stone	Wood	
Summer street, near Spring-street station, West Roxbury	4.0	4.5	40	Stone	Wood.	
Tenean street, near Fulton, Dorchester	6.25	6.25	40	Wood	Earth and wood	6.5
Texas avenue, off Tremont street	14.0	about 8.0	20	Stone	Wood	3.0
Walk Hill street, near Canterbury, West Roxbury	8.0	4.0	50	Stone arch	Stone	3.0
Walter street, north of Bussey park, West Roxbury	3.0	4.0	60	Stone	Stone	3.0
Washington street, corner Beaumont avenue, Brighton	3.0	3.5	65	Stone	Stone	3.0

List of Culverts or Small Bridges. —*Concluded.*

Location.	Span. *Feet.*	Height of Opening. *Feet.*	Length. *Feet.*	Side-walls.	Covering.	Depth of Covering. *Feet.*
*Washington street (Musk-Rat Village), West Roxbury . .	14.0	6.0	40	Stone arch	Stone	4.5
Washington street, near Poplar street, West Roxbury . . .	14.0	5.0	38	Stone	Wood	3.4
*Washington street, near Williams, West Roxbury	each 7.0	each 7.0	70	Double stone arch .	Stone	4.5
Weld street, near La Grange, West Roxbury	2.0	4.0	30	Stone	Stone	4.0
Western avenue, near North Harvard street, Brighton . . .	4.0	3.0	60	Stone	Stone	4.0
*Willliams street, West Roxbury	15.5	8.0	40	Stone	Wood.	
Williams street, West Roxbury	5.0	5.0	50	Wood	Wood.	

APPENDIX D.

DRAW-TENDERS' REPORTS.[1]

Giving the Number of Vessels passing through the Drawbridges controlled by the City of Boston, during the years 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888.

Name of Bridge.	Steamers.								Sailing Vessels.								Tugs.								All Others.								Total No. of Vessels.								[1]Total for Eight Years.
	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1881 to 1888 Inclusive.
Broadway	20	34	34	36	40	54	21	14	4,201	3,772	3,530	3,905	3,825	3,394	3,188	3,168	2,040	2,041	1,843	1,705	1,625	1,440	1,360	1,578	180	277	136	245	126	194	194	206	6,441	6,124	5,543	5,891	5,616	5,082	4,763	4,966	44,426
Cambridge Street	6							2	411	372	398	394	431	476	461	534	691	577	1,187	878	736	840	783	944	70	33	1,025	451	28	35	61	80	1,178	982	2,610	1,723	1,195	1,351	1,305	1,560	11,904
Charles River	46	84	60	57	76	86	53	30	5,868	5,386	5,089	4,851	4,818	5,139	4,785	4,753	2,681	2,587	2,446	2,065	1,510	1,745	1,864	2,118	741	712	537	506	421	658	889	809	9,336	8,769	8,132	7,479	6,825	7,628	7,591	7,710	63,470
Chelsea (North)	63	125	95	174	191	146	89	229	910	909	848	866	730	770	786	1,906	1,447	1,595	1,784	1,720	1,220	1,330	1,421	3,263	446	385	562	433	191	269	338	970	2,866	3,014	3,289	3,193	2,332	2,515	2,634	6,368	26,211
Chelsea (South)	2	7	17	18	10	4	2		1,380	1,188	1,122	1,225	1,100	1,113	1,196	1,086	1,912	2,018	2,192	2,609	1,997	2,286	2,678	3,124	365	440	502	1,012	509	517	532	950	3,659	3,653	3,833	4,864	3,616	3,920	4,408	5,160	33,113
Chelsea Street						1	1						3	1	12	2			3		2	1					6	6	1	4	10	10			9	6	6	7	23	12	63
Commercial Point																									9	5	6	11	10	5	3	1	9	5	6	11	10	5	3	1	50
Congress Street	216	254	329	358	390	356	365	391	7,818	6,667	6,024	6,008	6,173	5,711	5,555	5,337	7,778	8,769	8,625	7,122	6,433	6,510	5,944	6,312	1,643	2,187	4,021	2,260	1,604	2,243	1,890	1,599	17,455	17,877	18,999	15,748	14,600	14,820	13,754	13,639	126,892
Dover Street	26	36	32	37	40	53	19	14	3,447	3,103	2,695	3,013	2,922	2,581	2,671	2,741	1,871	1,907	1,658	1,562	1,505	1,352	1,275	1,458	229	221	233	314	230	316	206	185	5,573	5,267	4,618	4,926	4,697	4,302	4,171	4,398	37,952
Essex Street	99	1	1					4	443	421	441	437	477	526	512	592	718	570	1,237	904	781	875	829	993	42	33	932	427	26	44	42	62	1,302	1,025	2,611	1,768	1,284	1,445	1,383	1,651	12,469
Federal Street	20	34	34	36	37	55	20	14	4,204	3,735	3,588	3,934	3,854	3,398	3,337	3,390	2,203	2,270	2,126	1,931	1,840	1,678	1,530	1,808	400	490	256	319	213	344	244	305	6,827	6,529	6,004	6,220	5,944	5,475	5,131	5,517	47,647
Granite									104	98	69	94	113	109	109	141	132	95	120	132	160	170	167	246									236	193	189	226	273	279	276	387	2,059
Malden	28	16				2	4		393	356	308	424	336	300	298	386	735	781	894	853	776	752	775	962	135	120	445	238	303	242	165	385	1,291	1,273	1,647	1,515	1,415	1,296	1,242	1,733	11,412
Meridian Street	88	116	29	27	9	17	25	75	928	1,038	886	1,054	1,019	1,002	1,063	1,005	2,123	2,330	1,869	2,225	2,214	2,109	2,553	2,734	767	845	904	803	662	587	719	834	3,906	4,329	3,688	4,109	3,904	3,715	4,360	4,648	32,659
Mt. Washington Avenue	26	51	76	65	64	79	60	63	5,375	4,816	4,533	4,693	4,681	4,314	4,044	3,945	4,879	5,197	5,196	4,603	4,225	4,187	3,923	4,272	1,050	1,313	1,939	1,845	1,364	1,115	1,234	1,211	11,330	11,377	11,744	11,206	10,334	9,695	9,261	9,491	84,438
Neponset									135	137	130	156	185	138	222	233	92	118	126	134	166	174	162	252		2	10		8	18	3	21	227	257	266	290	359	330	387	506	2,622
No. Beacon Street																2									1		4		2	2			1		4		2	2		2	11
No. Harvard Street									136	125	106	119	97	133	159	169	244	226	937	452	168	264	284	317	21	26	823	440	11	26	24	28	401	377	1,866	1,011	276	423	467	514	5,335
Warren	39	82	61	54	77	82	44	46	4,877	4,395	4,186	4,095	3,924	4,298	3,933	4,230	1,685	1,493	1,204	1,144	680	846	864	965	603	550	322	354	319	527	905	591	7,204	6,520	5,773	5,647	5,000	5,753	5,746	5,832	47,475
Western Avenue to Cambridge	2							2	389	341	348	355	383	427	417	465	654	539	1,136	821	653	769	723	844	70	32	1,024	467	28	32	57	39	1,110	912	2,508	1,643	1,064	1,228	1,197	1,350	11,012
Western Avenue to Watertown	2	4		2	4				48	64	29	61	33	2	12	4	37	21	35	36	56	24	25	22	18	27	22	9	28	18	18	16	105	116	86	108	121	44	55	42	677
Totals	683	844	768	864	938	935	703	884	41,062	36,923	34,330	35,684	35,104	33,832	32,760	34,089	31,922	33,134	34,618	30,896	26,747	27,352	27,160	32,212	6,790	7,698	13,709	10,140	6,084	7,196	7,534	8,302	80,457	78,599	83,425	77,584	68,873	69,315	68,157	75,487	601,897

[1] West Boston, Prison Point, and Canal (or Craigie's) Bridges, not included in these tables, being in the care of Commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

APPENDIX E.

List of Tools, etc., at Foundry-st. Yard.

1 Narrow axe.
1 Pick axe.
34 Ship augers.
2 Claw bars.
4 Shackle bars.
6 Stripping bars.
6 Pinch bars.
2 Cant bars.
6 Drift bolts.
2 Ice chisels.
4 Cold chisels.
2 Iron clamps.
1 Iron chain.
5 Iron dogs.
6 Painters' falls.
14 Fence hangers.
14 Bridge hangers.
2 Roof hooks.
7 S-hooks.
2 Trestles.
6 Triangles.
13 Ladders.
4 Iron wedges.
1 Step ladder.
23 Paint pots.
12 Paint scrapers.
300 Feet rope.
4 Hydraulic jacks.
5 Screw jacks.
2 Lockers.
4 Lanterns.
1 Timber truck.
1 Hand-cart.
1 Wheelbarrow.
2 Cross-cut saws.
1 Buck-saw and horse.
1 Iron vise.
1 Spur-shore clamp.
3 Snow shovels (steel).
1 Monkey wrench.
4 Fork wrenches.
1 Concord wagon.
1 Buggy.
2 Harnesses.
2 Horses.
3 Snow shovels (wooden).
1 Express wagon.
1 Bull saw.

[Document 22 — 1890.]

CITY OF BOSTON.

ANNUAL REPORT

OF THE

SUPERINTENDENT OF BRIDGES,

FOR 1889.

Bridge Department,
14 Beacon Street, January 27, 1890.

To the Honorable City Council:—

In accordance with the provisions of the eleventh section of Chapter 45, Revised Ordinances of 1885, the following report of the expenses and operations of the department for the year 1889 is respectfully submitted:—

Tide-Water Bridges.

Broadway bridge (over Fort Point channel).

Sheathed draw, repaired road-gates, sheathed roadway from Foundry street to Albany street, also on Old Colony Railroad span, repaired engine and smoke-stack and painted iron chords, columns, and beams, from Foundry street to Old Colony Railroad, one coat.

Carpenters . .	$691 50
Painters . . .	580 25
Lumber . . .	1,047 97
Nails, spikes, etc. .	78 70
Iron-work . .	173 75
Carried forward,	$2,572 17

Boston City Messenger Oct. 4, 1904

Brought forward,	$2,572 17		
Paint stock . .	92 00		
Sundries . . .	22 05		
		$2,686 22	
Regular expenses :—			
Draw-tenders . .	$4,837 04		
Supplies . . .	101 46		
Fuel . . .	241 70		
Watering . . .	200 00		
		5,380 20	
			$8,066 42

Cambridge-street bridge (from Brighton to Cambridge).

Sheathed roadway and draw, put in new flaps, repaired water-way and painted bridge two coats.

Carpenters . .	$72 25		
Painters . . .	45 25		
Lumber . . .	124 02		
Nails, spikes, etc. .	4 70		
Paint stock . .	19 46		
Sundries . . .	8 62		
		$274 30	
Regular expenses :—			
Draw-tender . .	$332 28		
Supplies . . .	13 25		
Fuel . . .	12 45		
		$357 98	
			632 28

Charles-river bridge (from Boston to Charlestown).

Sheathed draw twice, new oak headers put in, repaired water-way, two new buoys set, ring-bolts repaired, trucks repaired and placed in position, repaired engine, and house damaged by vessel repaired :—

Carpenters . .	$458 75		
Painters . . .	24 50		
Lumber . . .	183 50		
Nails, spikes, etc. .	13 30		
Iron-work . .	167 19		
Resetting buoys .	110 00		
Sundries . . .	4 97		
		$962 21	
Carried forward,		$962 21	$8,698 70

Brought forward,		$962 21	$8,698 70
Regular expenses :—			
Draw-tenders . .	$3,889 60		
Supplies . . .	89 19		
Cordage . . .	273 80		
Fuel . . .	531 60		
Watering . . .	300 00		
		5,084 19	
			6,046 40

Chelsea bridge [North] over North channel, Mystic river.

Sheathed draw and put in new oak headers, stringers repaired, water-way and road gate repaired, and painted inside of draw-house and whitened ceilings :—

Carpenters . .	$413 25		
Painters . . .	64 50		
Lumber . . .	107 87		
Nails, spikes, etc. .	8 52		
Iron-work . .	233 22		
Paint stock . .	3 38		
Sundries . . .	30 07		
		$860 81	
Regular expenses : —			
Draw-tenders . .	$2,569 56		
Supplies . . .	70 06		
Feed . . .	94 58		
Fuel	34 60		
Sundries . . .	66 48		
		2,835 28	
			3,696 09

Chelsea bridge [South] (over South channel, Mystic river).

New deck on draw of kyanized spruce laid, sheathed draw, repaired fence, new blinds put on draw-house, water-way repared, iron-work cleaned, painted iron chords and beams one coat, and draw-house, top of bridge, and barn two coats : —

Carpenters . .	$732 75		
Painters . . .	518 75		
Cleaning iron . .	68 75		
Carried forward,	$1,320 25		$18,441 19

Brought forward,	$1,320 25		$18,441 19
Lumber . . .	365 83		
Nails, spikes, etc. .	44 67		
Iron-work . .	131 99		
Paint stock . .	93 40		
Sundries . . .	33 79		
		$1,989 93	
Regular expenses: —			
Draw-tenders . .	$2,492 35		
Supplies . . .	102 46		
Feed . . .	86 29		
Fuel	40 70		
Sundries . . .	20 25		
		2,742 05	
			4,731 98
Chelsea-street bridge (from East Boston to Chelsea).			
Draw replanked with four-inch spruce, machinery under draw repaired and put in working order: —			
Carpenters . .	$162 00		
Lumber . . .	226 89		
Nails, spikes, etc. .	8 80		
Iron-work . .	117 93		
Sundries . . .	5 94		
		$521 56	
Regular expenses: —			
Draw-tender		299 00	
			820 56
Commercial Point or Tenean bridge (Dorchester).			
Regular expenses: —			
Draw-tender			50 00
Congress-street bridge (over Fort Point channel).			
Sheathed draw twice, put in new oak headers on draw and abutment, reset buoys, repaired roadway gates, engine and machinery under draw, and painted roofs of draw-house and shed: —			
Carpenters . .	$671 12		
Painters . . .	44 75		
Lumber . . .	471 37		
Carried forward,	$1,187 24		$24,043 73

Brought forward,	$1,187 24		$24,043 73
Nails, spikes, etc.	20 95		
Iron-work	539 18		
Paint stock	10 94		
New gate and step	100 00		
Resetting buoys	100 00		
Sundries	27 40		
		$1,985 71	
Regular expenses: —			
Draw-tenders	$4,089 28		
Supplies	117 03		
Fuel	328 50		
		4,534 81	
			6,520 52

Dover-street bridge (over Fort Point channel).

Sheathed both draws, repaired iron fence on draw, wood fence on roadway and stables, trucks repared and placed in position, new pinion attached to main shaft, track timbers repaired, all iron-work cleaned, painted both iron draws, bridge-house and two stables two coats, also painted inside of house, and row-boat, and whitened ceilings: —

Carpenters	$664 50		
Painters	564 25		
Cleaning iron	215 00		
Lumber	352 28		
Nails, spikes, etc.	50 09		
Iron-work	265 20		
Paint stock	318 81		
Sundries	9 38		
		$2,439 51	
Regular expenses: —			
Draw-tenders	$3,891 07		
Supplies	173 74		
Feed	165 98		
Fuel	27 33		
Sundries	88 70		
		4,346 82	
			6,786 33

Essex-street bridge (from Brighton to Cambridge).

Carried forward,	$37,350 58

Brought forward,			$37,350 58
Sheathed draw and roadway, repaired fence and hoisting machinery on draw, and painted small draw-house: —			
Carpenters . .	$246 25		
Painters . . .	8 50		
Lumber . . .	246 95		
Nails, spikes, etc. .	10 87		
Sundries . . .	4 51		
		$517 08	
Regular expenses: —			
Draw-tender . .	$406 08		
Supplies . . .	10 43		
Fuel	6 10		
		422 61	
			939 69
Federal-street bridge (over Fort Point channel).			
Sheathed both draws twice and repaired deck, new oak headers put in on draw and abutment, also new chock blocks, tracks adjusted and track timbers repaired, water-way repaired, new floors laid in both stables, new angle blocks put in, new chords placed under draw on upstream side, both piers sheathed, repaired roadway paving in various places, and painted houses two coats, machinery and draw one coat: —			
Carpenters . .	$2,688 50		
Painters . . .	402 50		
Lumber . . .	654 32		
Nails, spikes, etc. .	22 34		
Iron-work . . .	367 27		
Paint stock . .	52 95		
Repairing paving .	748 93		
Sundries . . .	72 51		
		5,009 32	
Regular expenses: —			
Draw-tenders . .	$3,340 99		
Supplies . . .	102 88		
Feed	198 11		
Fuel	40 83		
Sundries . . .	87 49		
		3,770 30	
			8,779 62
Carried forward,			$47,069 89

Brought forward,			$47,069 89
Granite bridge (from Dorchester to Milton).			
Sheathed draw and bridge: —			
Carpenters . . .	$41 75		
Lumber . . .	87 23		
Nails, spikes, etc. .	2 00		
		$130 98	
Regular expenses: —			
Draw-tender . .		239 20	
			370 18
Malden bridge (from Charlestown to Everett).			
Deck of draw repaired with kyanized spruce and sheathed, wheel-guards and latches repaired, draw readjusted, counter-balance beams and chock-blocks repaired, fences repaired, and bridge-fences, draw and house painted one coat, also inside of house: —			
Carpenters . . .	$443 00		
Painters . . .	551 50		
Lumber . . .	326 41		
Nails, spikes, etc. .	4 10		
Iron-work . . .	15 97		
Paint stock . .	70 29		
Sundries . . .	5 74		
		$1,417 01	
Regular expenses: —			
Draw-tenders . .	$1,496 04		
Supplies . . .	34 43		
Fuel	14 50		
		1,544 97	
			2,961 98
Meridian-street bridge (from East Boston to Chelsea.)			
The machinery under this draw was thoroughly overhauled and repaired by putting in new wheels of gun metal, new upper and lower plates or tracks, deck of draw repaired and sheathed, draw adjusted and roadway repaired, buoy reset and painted machinery and upper chord one coat: —			
Carpenters . .	$893 25		
Painters . . .	76 00		
Carried forward,	$969 25		$50,402 05

Brought forward,	$969 25		$50,402 05
Lumber . . .	163 70		
Nails, spikes, etc. .	21 73		
Iron-work . . .	1,202 83		
Paint stock . .	20 66		
Resetting buoy . .	50 00		
Raising draw . .	150 00		
Damage to schooner .	85 00		
Sundries . . .	64 38		
		$2,727 55	
Regular expenses : —			
Draw-tenders . .	$1,595 36		
Supplies . . .	91 18		
Feed	107 95		
Fuel	37 10		
Sundries . . .	82 55		
		1,914 14	
			4,641 69
Mt. Washington-avenue bridge (over Fort Point channel.)			
Deck of draw repaired, recalked and sheathed, new oak headers put in, sidewalk repaired, new water connection made with draw-house, paving and roadway gates repaired, iron-work cleaned, and painted underside and top of draw two coats : —			
Carpenters . .	$418 75		
Painters . . .	403 50		
Cleaning iron . .	45 00		
Lumber . . .	219 27		
Nails, spikes, etc. .	7 28		
Iron-work . . .	132 80		
Paint stock . .	121 85		
Repairing paving .	41 25		
Resetting buoys . .	233 00		
Calking draw . .	39 72		
Plumbing . . .	47 37		
Sundries . . .	9 00		
		$1,718 79	
Regular expenses : —			
Draw-tenders . .	$4,089 28		
Supplies . . .	39 29		
Fuel	29 25		
Carried forward,	$4,157 82	$1,718 79	$55,043 74

Brought forward,	$4,157 82	$1,718 79	$55,043 74
Rent of land . .	60 00		
Sundries . . .	8 72		
		4,226 54	
			5,945 33
Neponset bridge (from Dorchester to Quincy).			
Repaired sheathing: —			
Carpenters . .	$12 00		
Sundries . . .	7 40		
		$19 40	
Regular expenses: —			
Draw-tender		398 84	
			418 24
North Beacon-street bridge (from Brighton to Watertown).			
Sheathed roadway and draw and put on new flaps.			
Carpenters . .	$108 75		
Lumber . . .	142 35		
Nails, spikes, etc. .	2 95		
		$254 05	
Regular expenses: —			
Draw-tender		74 88	
			328 93
North Harvard-street bridge (from Brighton to Cambridge).			
New deck on draw, roadway and draw sheathed, and bridge painted two coats: —			
Carpenters . .	$127 75		
Painters . . .	41 00		
Lumber . . .	72 46		
Nails, spikes, etc .	2 00		
Iron-work . . .	5 00		
Paint stock . .	21 28		
Sundries . . .	6 26		
		$275 75	
Regular expenses: —			
Draw-tender . .		332 28	
			608 03
Warren bridge (from Boston to Charlestown).			
Sheathed both draws twice and put in oak headers, deck on westerly draw repaired,			
Carried forward,			$62,344 27

Brought forward,			$62,344 27
laid new hard-pine sidewalk on same, roadway gates repaired, reset wire-rope drum, damage to house by tow-boat repaired, also engine and steam capstan; and repaired damage done to lighter "Dresden": —			
Carpenters . .	$341 00		
Lumber . . .	616 08		
Nails, spikes, etc. .	31 52		
Iron-work . . .	323 12		
Repairing damage to "lighter" . .	42 72		
Sundries . . .	28 75		
		$1,383 19	
Regular expenses: —			
Draw-teners . .	$4,583 30		
Supplies . . .	165 66		
Fuel	672 00		
Watering . . .	450 00		
		5,870 96	
			7,254 15
Western-avenue bridge (from Brighton to Cambridge): —			
New main stringer put in on draw, new deck laid on draw, deck on roadway repaired, new sidewalk, counter-balance beams repaired, roadway and draw sheathed, reset buoy, and painted bridge two coats: —			
Carpenters . .	$309 75		
Painters . . .	37 50		
Lumber . . .	142 97		
Nails, spikes, etc. .	3 07		
Paint stock . .	15 60		
Iron-work . . .	17 78		
Resetting buoy . .	50 00		
Sundries . . .	10 73		
		$587 40	
Regular expenses: —			
Draw-tender		332 28	
			919 68
Western-avenue bridge (from Brighton to Watertown).			
Sheathed roadway and draw and put on new flaps: —			
Carried forward,			$70,518 10

Brought forward,			$70,518 10
Carpenters . .	$6 00		
Lumber . . .	14 16		
Nails, spikes, etc. .	4 10		
Iron-work . .	19 60		
		$43 86	
Regular expenses: —			
Draw-tender . .		74 88	
			118 74
Winthrop bridge (from Breed's Island to Winthrop].			
Hard-pine girders were placed under the cap-stringers, spur-shores were strengthened and fence repaired: —			
Carpenters . .	$228 50		
Lumber . . .	12 27		
Nails, spikes, etc. .	1 29		
Sundries . . .	8 40		
		$250 46	
Regular expenses: —			
Draw-tender . .		100 00	
			350 46
			$70,987 30

INLAND BRIDGES.

Albany-street bridge (over Boston & Albany Railroad).		
Sheathed bridge and repaired deck: —		
Carpenters	$74 50	
Lumber	111 76	
Nails, spikes, etc. . . .	8 40	
Iron-work	2 32	
		$196 98
Beacon-street bridge (over Boston & Albany Railroad).		
Sheathed bridge, and painted top and underside of bridge two coats: —		
Carpenters	$58 00	
Painters	780 00	
Lumber	93 67	
Nails, spikes, etc. . . .	1 10	
Paint stock	217 30	
		1,150 07
Carried forward,		$1,347 05

Brought forward,		$1,347 05
Beacon-street bridge (over outlet to Back-Bay Fens pond).		
Sheathed roadway: —		
Carpenters	$70 50	
Lumber	118 54	
Nails, spikes, etc.	9 40	
		198 44
Berkeley-street bridge (over Boston & Albany Railroad).		
Sheathed roadway, and laid new sidewalks: —		
Carpenters	$87 75	
Lumber	76 26	
Nails, spikes, etc.	2 30	
		166 31
Berkeley-street bridge (over Old Colony Railroad, Providence Division).		
Sheathed roadway: —		
Carpenters	$168 25	
Lumber	421 57	
Nails, spikes, etc.	16 40	
		606 22
Blakemore-street bridge (over Old Colony Railroad, Providence Division).		
Section of iron fence repaired, and painted top and underside of bridge two coats: —		
Carpenters	$10 00	
Painters	362 00	
Iron-work	17 15	
Paint stock	47 43	
Sundries	17 38	
		453 96
Boylston-street bridge (over Boston & Albany Railroad).		
Repaired sheathing between tracks, and painted top of bridge two coats: —		
Carpenters	$29 00	
Painters	537 00	
Paint stock	83 69	
		649 69
Broadway-bridge (over Boston & Albany Railroad).		
Sheathed roadway: —		
Carried forward,		$3,421 67

Brought forward,			$3,421 67
Carpenters		$52 00	
Lumber		153 65	
Nails, spikes, etc. . . .		2 00	
			207 65
Central-avenue bridge (from Dorchester to Milton).			
Sheathed roadway near Milton line: —			
Carpenters		$19 00	
Lumber		49 04	
Nails, spikes, etc. . . .		2 25	
			70 29
Columbus-avenue bridge (over Boston & Albany Railroad).			
Sheathed roadways: —			
Carpenters		$73 00	
Lumber		103 02	
Nails, spikes, etc. . . .		5 08	
			181 10
Commonwealth-avenue bridge (over outlet to Back Bay-Bay Fens pond).			
Sheathed roadway: —			
Carpenters		$56 25	
Lumber		154 89	
Nails, spikes, etc. . . .		4 80	
			215 94
Cottage-street (foot) bridge from Jeffries Point to Wood Island).			
Built new house for watchman, and painted same: —			
Carpenters . .	$41 00		
Painters . . .	36 00		
Lumber . . .	10 50		
Nails, spikes, etc. .	2 33		
Iron-work, etc. . .	6 87		
Paint stock . .	10 54		
Sundries . . .	8 00		
		$115 24	
Watchman (permanently employed)		106 00	
			221 24
Dartmouth-street bridge (over Boston & Albany, and Providence Division of Old Colony Railroad): —			
New deck laid of kyanized spruce, new string-			
Carried forward,			$4,317 89

Brought forward,		$4,317 89
ers laid where defective, sheathed roadways, all iron-work overhauled and cleaned, painted pine sheathing over centre chord two coats, underside of bridge one coat.		
Carpenters.	$650 75	
Painters	61 25	
Cleaning iron	20 00	
Lumber	1,197 30	
Nails, spikes, etc.	70 34	
Iron-work	1 50	
Paint stock	54 88	
Sundries	37 70	
		2,093 72
Dorchester-street bridge (over Old Colony Railroad, Central Division).		
Sheathing repaired by the city, and roadway sheathed by Old Colony Railway Co., the city paying its proportion, one-fifth: —		
Carpenters	$15 25	
Lumber	25 50	
Nails, spikes, etc.	2 00	
Old Colony Railroad Co. . . .	38 20	
		80 95
Ferdinand-street bridge (over Boston & Albany Railroad).		
Deck repaired, roadways sheathed, and new sidewalk laid in part: —		
Carpenters	$91 75	
Lumber	107 37	
Nails, spikes, etc.	6 35	
		205 47
Franklin-street (foot) bridge (over Boston & Albany Railroad).		
Painted bridge two coats: —		
Painters	$165 75	
Paint stock	41 87	
Sundries	7 56	
		215 18
Huntington-avenue bridge (over Boston & Albany Railroad).		
Sheathed roadway: —		
Carpenters	$56 50	
Lumber	171 57	
Nails, spikes, etc.	2 00	
		230 07
Carried forward,		$7,143 28

Brought forward,		$7,143 28
Linden Park-street bridge (over Stony brook).		
Sheathed roadway and painted bridge two coats.		
Carpenters	$15 00	
Painters	40 00	
Lumber	62 16	
Nails, spikes, etc.	2 00	
Paint stock	14 93	
		134 09
Longwood avenue bridge (from Roxbury to Brookline).		
Northerly side sheathed: —		
Carpenters	$61 00	
Lumber	51 94	
Nails, spikes, etc.	2 00	
		114 94
Shawmut avenue bridge (over Boston & Albany Railroad).		
New deck laid of kyanized spruce, new stringers, sheathed roadway, new concrete sidewalk laid on easterly side, and repaired westerly one, all iron-work cleaned, and painted top of bridge and fences two coats.		
Carpenters	$812 00	
Painters	480 75	
Cleaning iron	175 00	
Lumber	1,084 82	
Nails, spikes, etc.	45 24	
Iron-work	33 05	
Paint stock	81 99	
Concrete for walks	117 75	
Sand, lime, etc.	21 70	
Teaming	26 00	
		2,878 30
Swett-street bridges. (East and West of New York & New England Railroad).		
Repaired roadway and painted both bridges two coats.		
Carpenters	$48 00	
Painters	26 00	
Nails, spikes, etc.	2 00	
Paint stock	9 78	
		85 78
Carried forward,		$10,356 39

Brought forward,		$10,356 39
Texas-street bridge (over Stony brook).		
New stringers put in, and replanked with three-inch spruce.		
Carpenters	$28 50	
Lumber	17 36	
Nails, spikes. etc.	2 00	
		47 86
Washington-street culvert, near Poplar street, West Roxbury.		
Repairing culvert in 1888.		
Stone		16 00
West Chester-park bridge (over Boston & Albany Railroad).		
New deck laid of kyanized spruce, new stringers laid where defective and new sidewalks of two-inch spruce with new concrete on top, all iron-work cleaned and painted two coats.		
Carpenters	$500 75	
Painters	109 00	
Cleaning iron	45 00	
Lumber	589 60	
Nails, spikes, etc.	36 40	
Iron-work	2 68	
Paint stock	32 85	
Concrete for walk	132 19	
Sand, lime, etc.	63 50	
Teaming	18 00	
		1,529 97
West Chester-park bridge (over Old Colony Railroad, Providence Division).		
Sheathed bridge: —		
Carpenters	$92 50	
Lumber	77 71	
Nails, spikes, etc.	2 00	
		172 21
West Rutland-square (foot) bridge (over Old Colony Railroad, Providence Division).		
Painted bridge, two coats: —		
Painters	$129 75	
Paint stock	12 27	
		142 02
		$12,264 45

MISCELLANEOUS.

Board of Superintendent's horse	$306 83
Building fence at yard	171 93
Building shop at yard	180 70
Commonwealth of Massachusetts (paid for displacement of tide-water at Congress-street bridge	29 62
Execution of court (damages paid to owners of schooner "H. S. Culver," caught in drawway at Dover-st. bridge, Jan. 21, 1887)	968 80
City Engineer, horse-hire for	31 00
Feed for stable at yard	185 53
Fuel at yard	37 60
Harness, repairs, etc., at yard stable	62 25
Horse-shoeing at yard stable	96 75
Horses purchased (three)	700 00
Medical attendance on horses at yard stable	4 50
Messenger	799 25
New buggy	325 00
New wagon	189 50
Printing and stationery	216 52
Removing snow from sundry bridges	93 25
Repairing buildings at yard	200 17
Repairing vehicles	205 00
Salaries of superintendent and clerks	4,541 67
Stock, bridge supplies, nails, and paint	184 76
Storekeeper	933 75
Sundry bridge supplies	187 91
Sundry office expenses	39 70
Sundry supplies for yard stable	37 51
Sundry yard expenses	35 95
Teamster	732 25
Telephones, expense of	310 00
Tools, etc., for carpenters	72 07
Tools, etc., for painters	141 92
Use of horse	20 00
Use of wagon	14 00
Water for yard stable	15 00
	$12,070 69

RECAPITULATION.

Table showing Expenditures on the Tide-water Bridges for the year 1889.

Name of Bridge.	Regular expenses, salaries, fuel, and all small supplies.	Repairs, lumber, iron-work, painting, and labor.	Total.
Broadway	$5,380 20	$2,686 22	$8,066 42
Cambridge-street	357 98	274 30	632 28
Charles-river	5,084 19	962 21	6,046 40
Chelsea (North)	2,835 28	860 81	3,696 09
Chelsea (South)	2,742 05	1,989 93	4,731 98
Chelsea-street	299 00	521 56	820 56
Commercial-point	50 00	.....	50 00
Congress-street	4,534 81	1,985 71	6,520 52
Dover-street	4,346 82	2,439 51	6,786 33
Essex-street	422 61	517 08	939 69
Federal-street	3,770 30	5,009 32	8,779 62
Granite	239 20	130 98	370 18
Malden	1,544 97	1,417 01	2,961 98
Meridian-street	1,914 14	2,727 55	4,641 69
Mt. Washington-avenue	4,226 54	1,718 79	5,945 33
Neponset	398 84	19 40	418 24
North Beacon-street	74 88	254 05	328 93
North Harvard-street	332 28	275 75	608 03
Warren	5,870 96	1,383 19	7,254 15
Western-avenue (to Cambridge)	332 28	587 40	919 68
Western-avenue (to Watertown)	74 88	43 86	118 74
Winthrop	100 00	250 46	350 46
Totals	$44,932 21	$26,055 0	$70,987 30

Table showing Expenditures on the Inland Bridges during the Year 1889:—

Name of Bridge.	Repairs, lumber, iron-work, painting, and labor.
Albany-street	$196 98
Beacon-street (over B. & A. R.R.)	1,150 07
Beacon-street (over outlet)	198 44
Berkeley-street (over B. & A. R.R.)	166 31
Berkeley-street (over Providence Division O. C. R.R.)	606 22
Blakemore-street	453 96
Boylston-street (over B. & A. R.R.)	649 69
Broadway (over B. & A. R.R.)	207 65
Central-avenue	70 29
Columbus-avenue	181 10
Commonwealth-avenue (over outlet)	215 94
Cottage-street	221 24
Dartmouth-street	2,093 72
Dorchester-street	80 95
Ferdinand-street	205 47
Franklin-street	215 18
Huntington-avenue	230 07
Linden Park-street	134 09
Longwood-avenue	114 94
Shawmut-avenue	2,878 30
Swett-street	85 78
Texas-street	47 86
Washington-street (near Poplar)	16 00
West Chester-park (over B. & A. R.R.)	1,529 97
West Chester-park (over Providence Division O. C. R.R.)	172 21
West Rutland-square	142 02
Total	$12,264 45

Expenditures on tide-water bridges	$70,987 30
" " inland bridges	12,264 45
Miscellaneous	12,070 69
Total	$95,322 44

GENERAL SUMMARY OF EXPENDITURES.

Salaries of draw-tenders	$39,513 59
Labor	19,501 62
Miscellaneous	12,070 69
Lumber	10,256 13
Sundries	4,032 06
Iron-work	3,876 40
Supplies	2,037 77
Fuel	2,016 66
Paint stock	1,448 15
Nails, spikes, etc.	569 37
Total	$95,322 44

Balance of regular appropriation for 1888–9 on hand January 1, 1889, was	$16,960 69
Balance of special appropriation "Building and Repairs of Culverts" on hand January 1, 1889, was	1,902 46
Transfer from "West Boston and other Bridges" to this department, April 30, 1889,	828 88
Transfer from "Station House Matrons and House of Detention" to this department, April 30, 1889	1,300 00
Total	$20,992 03
Amount of this expended May 1, 1889	20,981 63
Balance to sinking-fund	$10 40

Appropriation for 1889–90 was	$90,000 00
Amount expended of same January 1, 1890	74,340 81
Balance on hand January 1, 1890	$15,659 19

Amount expended from appropriations and transfers, 1888–9	$20,981 63
Amount expended from appropriation, 1889–90	74,340 81
Total amount expended January 1, 1889, to January 1, 1890	$95,322 44

I. — BRIDGES WHOLLY SUPPORTED BY BOSTON.

In the list those marked with an asterisk are over navigable waters, and are each provided with a draw.

Agassiz, in Back-Bay Fens.
Ashland street, Ward 23, over Old Colony Railroad, Providence Division.
Athens street, over N. Y. & N. E. Railroad.
Beacon entrance, Back Bay Fens, over Boston & Albany Railroad.
Beacon street, over outlet to Back-Bay Fens pond.
Beacon street, over Boston & Albany Railroad.
Berkeley street, over Boston & Albany Railroad.
Berkeley street, over Old Colony Railroad, Providence Division.
Blakemore street, over Old Colony Railroad, Providence Division, Ward 23.
Bolton street, over N. Y. & N. E. Railroad.
Boylston street, over Boston & Albany Railroad.
Boylston street, over outlet to Back-Bay Fens pond.
*Broadway, over Port Point Channel.
Broadway, over Boston & Albany Railroad.
Brookline avenue, over Boston & Albany Railroad.
Byron street, over Boston, Revere Beach, & Lynn Railroad.
*Charles river, from Boston to Charlestown.
*Chelsea (South), over South Channel, Mystic river.
*Chelsea street, from East Boston to Chelsea.
Columbus avenue, over Boston & Albany Railroad.
*Commercial Point, or Tenean, ward 24.
Commonwealth avenue, over outlet to Back Bay Fens pond.
*Congress street, over Fort Point Channel.
Cottage-street foot-bridge, from Jeffries Point to Wood Island.
Dartmouth street, over Boston & Albany, and Providence Division of Old Colony Railroad.
*Dover street, over Fort Point Channel.
*Federal street, over Fort Point Channel.
Ferdinand street, over Boston & Albany Railroad.
Franklin-street foot-bridge, over Boston & Albany Railroad.
Huntington avenue, over Boston & Albany Railroad.
Leyden street, over Boston, Revere Beach, & Lynn Railroad.
Linden Park street, over Stony brook.
*Malden, from Charlestown to Everett.
*Meridian street, from East Boston to Chelsea.
*Mt. Washington avenue, over Fort Point Channel.
Neptune, over Boston, Revere Beach, & Lynn Railroad.

Public-Garden foot-bridge.
Shawmut avenue, over Boston & Albany Railroad.
Swett street, east of N. Y. & N. E. Railroad.
Swett street, west of N. Y. & N. E. Railroad.
*Warren, from Boston to Charlestown.
West Chester park, over Boston & Albany Railroad.
West Chester park, over Old Colony Railroad, Providence Division.
West Newton street, over Old Colony Railroad, Providence Division.
West Rutland square foot-bridge, over Old Colony Railroad, Providence Division.
Winthrop, from Breed's Island to Winthrop.

II. — Bridges of which Boston supports the Part within its Limits.

*Cambridge street, from Brighton to Cambridge.
Central avenue, from Ward 24 to Milton.
*Chelsea (North), from Charlestown to Chelsea.
*Essex street, from Brighton to Cambridge.
*Granite, from Dorchester, Ward 24, to Milton.
Longwood avenue, from Ward 22 to Brookline.
Mattapan, from Ward 24 to Milton.
Milton, from Ward 24 to Milton.
*Neponset, from Ward 24 to Quincy.
*North Beacon street, from Brighton to Watertown.
*North Harvard street, from Brighton to Cambridge.
Spring street, from West Roxbury to Dedham.
*Western avenue, from Brighton to Cambridge.
*Western avenue, from Brighton to Watertown.

III. — Bridges of which Boston pays a Part of the Cost of Maintenance.

Albany street, over Boston & Albany Railroad.
Dorchester street, over Old Colony Railroad, Central Division.
*Harvard, from Boston to Cambridge.
*Canal, from Boston to Cambridge.
*Prison Point, from Charlestown to Cambridge.
*West Boston, from Boston to Cambridge.

The last three bridges are in the care of two Commissioners, who make an annual report to the City Council.

Harvard bridge is in the care of three Commissioners.

IV. — BRIDGES SUPPORTED BY RAILROAD CORPORATIONS.

1st. — Boston & Albany Railroad.

Commonwealth avenue, Brighton.
Harrison avenue.
Market street, Brighton.
Tremont street.
Washington street.

2d. — Boston & Maine Railroad, Eastern Division.

Mystic avenue.
Main street.

3d. — Boston & Maine Railroad, Western Division.

Mystic avenue.
Main street.

4th. — Boston, Revere Beach, & Lynn Railroad.

Everett street.

5th. — New York & New England Railroad.

Dorchester avenue.
Harvard street, Ward 24.
Morton " "
Norfolk " "
Norfolk " "
Silver street.
Washington street, Ward 24.
West Broadway.
West Fifth street.
West Fourth street.
West Second street.
West Sixth Street.
West Third street.

6th. — Old Colony Railroad, Central Division.

Adams street.
Ashmont street and Dorchester avenue.
Cedar Grove Cemetery.
Commercial street.
Savin Hill avenue.

7th. — Old Colony Railroad, Providence Division.

Beech street, Ward 23.
Bellevue street, Ward 23.
Canterbury street, Ward 23.
Centre street, or Hog Bridge, Ward 23.
Centre and Mt. Vernon streets, Ward 23.
Dudley avenue, Ward 23.
Park street, Ward 23.

RECAPITULATION.

I.	Number wholly supported by Boston . .	46
II.	Number of which Boston supports the part within its limits	14
III.	Number of which Boston pays a part of the cost of maintenance	6
IV.	Number supported by Railroad Corporations: —	
1.	Boston & Albany	5
2.	Boston & Maine, Eastern Div. . . .	2
3.	" " Western Div. . . .	2
4.	Boston, Revere Beach, & Lynn . . .	1
5.	New York & New England	13
6.	Old Colony, Central Div.	5
7.	" " Providence Div.	7
	Total number	101

The existing regulations for the passage of vessels through drawbridges have been posted on the several bridges, as required by law.

The records of the number of draw openings, vessels passing through the draw-ways, time of passage, kind of vessels, etc., as kept by the draw-tenders of the several bridges, have been tabulated, and the totals are given in the summary, which will he found in Appendices A and E.

A list of widths of openings for vessels in all bridges provided with draws in the city will be found in Appendix B.

The widths of the openings were measured by the City Engineer.

A list of culverts and small bridges will be found in Appendix C.

Appendix D contains a list of tools, etc., at Foundry-st. yard.

JAMES H. NUGENT,
Superintendent of Bridges.

APPENDICES.

APPENDIX A.

DRAW-TENDERS' REPORTS.

Giving the Number of Vessels passing through the Drawbridges controlled by the City of Boston during the year 1889.

Name of Bridge.	Steamers.			Sailing Vessels.			Tugs.			All Others.			Total No. Vessels.			No. of Openings.
	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	
Broadway	14	8	22	2,195	1,084	3,279	1,038	220	1,258	337	247	584	3,584	1,559	5,143	4,020
Cambridge street	.....	.....	.....	419	20	439	887	80	967	100	13	113	1,406	113	1,519	978
Charles River	10	2	12	2,899	1,445	4,344	1,862	407	2,269	1,109	311	1,420	5,880	2,165	8,045	6,189
Chelsea (North)	163	31	194	792	87	879	2,555	719	3,274	1,664	985	2,649	5,174	1,822	6,996	4,524
Chelsea (South)	6	.....	6	845	93	938	2,407	280	2,687	798	60	858	4,056	433	4,489	2,781
Chelsea Street	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	.....	11	11	.....	11	11
Congress Street	238	105	343	3,874	1,274	5,148	4,356	1,067	5,423	1,526	661	2,187	9,994	3,107	13,101	7,306
Commercial Point	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	1	1
Dover Street	11	3	14	1,511	1,275	2,786	639	474	1,113	319	294	613	2,480	2,046	4,526	3,547
Essex Street	.....	.....	.....	379	120	499	802	256	1,058	91	15	106	1,272	391	1,663	1,140

Federal Street	11	12	23	2,138	1,326	3,464	1,147	384	1,531	415	310	725	3,711	2,032	5,743	4,597
Granite	....	.....	... .	107	3	110	191	5	196	.....	.....	.....	298	8	306	206
Malden	6	.....	6	334	31	365	840	107	947	253	55	308	1,433	193	1,626	1,016
Meridian Street	73	24	97	900	121	1,021	2,620	289	2,909	918	134	1,052	4,511	568	5,079	3,014
Mt. Washington Avenue	23	9	32	2,757	1,201	3,958	2,913	638	3,551	1,228	431	1,659	6,921	2,279	9,200	6,728
Neponset	.....	.....	.....	162	14	176	197	8	205	6	.....	6	365	22	387	258
North Beacon Street	.....	...	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	. ....	1	1
North Harvard Street	.....	.....	.....	161	7	168	330	22	352	32	3	35	523	32	555	359
Warren	15	10	25	1,723	2,337	4,060	873	319	1,192	601	265	866	3,212	2,931	6,143	5,409
Western Ave. to Cambridge	.....	.....	.....	359	21	380	762	71	833	72	9	81	1,193	101	1,294	839
Western Ave. to Watertown	.....	.....	.....	2	.....	2	21	.....	21	14	.....	14	37	.....	37	37
Totals	570	204	774	21,557	10,459	32,016	24,440	5,346	29,786	9,496	3,793	13,28'	56,063	19,802	75,86	52,961

NOTE. — West Boston, Prison Point, Canal (or Craigie's), and Harvard Bridges not included in these tables, being in the care of Commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

APPENDIX B.

Table showing the Widths of Openings for Vessels in all Bridges, provided with Draws, in the City of Boston, January, 1890.

Name of Bridge.	Location.	Number of Openings.	Width.
Boston & Maine R.R., Eastern Division,	Boston to Charlestown . .	1	35 feet 10 inches.
Boston & Maine R.R., Eastern Division,	Over Miller's river	1	35 " 8 "
Boston & Maine R.R. (freight) Lowell, System	Boston to East Cambridge,	1	35 " 8 "
Boston & Maine R R. (passenger) Lowell System	" " " "	1	35 " 10 "
Boston & Maine R.R., Western Division,	Boston to Charlestown . .	1	35 " 7 "
Boston & Maine R.R., Western Division,	Over Miller's river	1	35 " 8 "
Broadway	Over Fort Point channel .	1	43 " 3 "
Cambridge st.	Ward 25 to Cambridge . .	1	30 " 8 "
Canal (or Craigie's)	Boston to East Cambridge,	1	35 " 10 "
Charles river	Boston to Charlestown . .	1	36 " 0 "
Chelsea (south channel)	Charlestown to Chelsea . .	1	38 " 10 "
Chelsea (north channel)	" " "	1	44 " 7 "
Chelsea st. (East Boston side)	East Boston to Chelsea . .	2	33 " 1 "
" " (Chelsea side)	" " " "	. .	34 " 3 "
Commercial Point (or Tenean)	Ward 24	1	24 " 0 "
Congress st. (Boston side)	Over Fort Point channel .	2	43 " 3 "
" " (South Boston side) . . .	" " " "	. .	43 " 11 "
Dover st.	" " " "	1	36 " 0 "
Essex st.	Ward 25 to Cambridge . .	1	30 " 11 "
Federal st.	Over Fort Point channel .	1	36 " 0 "
Fitchburg R.R.	Boston to Charlestown . .	1	36 " 0 "
" " (for teaming freights) .	" " " . .	1	36 " 0 "
Grand Junction R.R.	Ward 25 to Cambridge . .	1	35 " 0 "
" " "	East Boston to Chelsea . .	1	34 " 8 "
Granite	Ward 24 to Milton	1	36 " 0 "
Harvard (Boston side)	Boston to Cambridge . . .	2	36 " 8 "
" (Cambridge side)	" " " . . .	. .	36 " 8 "

Table showing Width of Openings, etc. — *Concluded.*

Name of Bridge.	Location.	Number of Openings.	Width.
Malden	Charlestown to Everett	1	43 feet 4 inches.
Meridian st. (East Boston side)	East Boston to Chelsea	2	59 " 0 "
" " (Chelsea side)	" " " "		59 " 0 "
Mt. Washington ave. (Boston side)	Over Fort Point channel	2	42 " 1 "
" " " (South Boston side)	" " " "		42 " 4 "
Neponset	Ward 24 to Quincy	1	36 " 0 "
New York & New England R.R. (Boston side)	Over Fort Point channel	2	40 " 8 "
New York & New England R.R. (South Boston side)	" " " "		40 " 8 "
New York & New England R.R.	Over South Bay	1	28 " 4 "
North Beacon st.	Ward 25 to Watertown	1	30 " 2 "
North Harvard st.	Ward 25 to Cambridge	1	31 " 8 "
Old Colony R.R.	Over Fort Point channel	1	36 " 0 "
" " "	Ward 24 to Quincy	1	36 " 0 "
Prison Point	Charlestown to Cambridge,	1	35 " 6 "
Warren	Boston to Charlestown	1	36 " 3 "
West Boston (Boston side)	Boston to Cambridge	2	35 " 8 "
" " (Cambridge side)	" " "		36 " 0 "
Western ave.	Ward 25 to Cambridge	1	31 " 3 "
" "	Ward 25 to Watertown	1	30 " 0 "

APPENDIX C.

List of Culverts and Small Bridges.

Those marked with (*) star are over Stony Brook.

LOCATION.	Span *Feet.*	Height of Opening. *Feet.*	Length. *Feet.*	Side-walls.	Covering.	Depth of Covering. *Feet.*
Adams street, south of Park, Dorchester	5.0	4.0	57	Stone	Stone	5.0
*Amory street, near Centre, West Roxbury	each 9.0	each 8.0	35	Double stone arch	Stone	8.0
*Ashland and Canterbury streets, West Roxbury	7.0	4.0	25	Stone arch	Stone	3.0
*Ashland street and Canterbury, West Roxbury	7.6	5.5	75	Stone	Wood	
Ashland street, near Florence, West Boxbury	3.0	3.0	50	Stone	Stone	6.0
Ashland street, 200 feet from Canterbury, West Roxbury	3.0	3.0	50	Stone	Stone	3.0
Back street, near Morton, Dorchester	5.0	4.0	30	Stone	Stone	2.0
Baker street, at Brook Farm, West Roxbury	15.0	5.0	30	Stone	Wood	
Baker street, opposite Prospect avenue, West Roxbury	2.67	2.67	60	Stone	Stone	1.0
Beech street, near Anawan avenue, West Roxbury	4.0	4.0	50	Stone	Wood	
Beech street, near Poplar, West Roxbury	1.5	2.5	40	Stone	Stone	5.0
Blue Hill avenue, Dorchester	2.75	1.67	225	Stone	Stone	2.0
Blue Hill avenne, near Madison street, Dorchester	9.0	7.0	60	Stone	Wood	
*Boylston avenue, West Roxbury	15.0	9.5	30	Stone	Wood	
*Boylston street, at Boylston station, West Roxbury	each 7.0	9.0&8.0	47	Double brick arch.	Brick	
Brighton avenue, west of Babcock street, Brighton	3.5	3.0	50	Stone	Stone	1.25

Brighton avenue, West of Essex street, Brighton	3.0	3.0	50	Wood	Wood and earth.	8.0
Canterbury street, near Morton, West Roxbury	2.0	3.0	40	Stone	Stone	4.0
Canterbury street, near Neponset avenue, West Roxbury	10.0	5.0	42	Stone arch	Stone	3.0
Canterbury street, near Poplar, West Roxbury	2.5	2.5	50	Stone	Stone	8.5
Centre street, near Spring, West Roxbury	4.0	4.0	50	Stone	Stone	3.0
Centre street, near Walter, West Roxbury	2.5	3.0	50	Stone	Stone	5.0
Centre street, at Williams farm, West Roxbury	4.0	4.0	50	Stone arch	Stone	4.0
Centre street, at Williams farm, West Roxbury	1.5	3.0	50	Stone	Stone	5.0
Centre street, corner Willow, West Roxbury	2.5	2.5	60	Stone	Stone	4.5
Church street, west of Weld, West Roxbury	2.67	4.5	65	Stone	Stone	3.0
Corey street, near Highland station, West Roxbury	2.5	3.0	45	Stone	Stone	2.0
Everett street, near B. & A. R.R., Brighton	3.0	2.0	65	Stone	Stone	2.0
Faneuil street, junction of Brooks, Brighton	3.5	3.5	130	Stone	Stone	2.5
Faneuil, West of Parsons, Brighton	4.0	4.83	50	Stone arch	Stone	4.0
Gardner street, near Cow Island, West Roxbury	5.0	5.5	33	Wood	Wood.	
*Green street, at Brookside avenue, West Roxbury	each 10.0	7.0&8.0	260	Double stone arch.	Stone	4.0
Harvard avenue, near Washburn street, Brighton	2.67	3.0	58	Stone	Stone	6.0
Harvard avenue, south of Washburn street, Brighton	2.75	3.75	55	Stone	Stone	4.0
*Hyde Park avenue and Washington street, West Roxbury	each 8.0	each 7.0	361 & 93 each. 454	Double stone and brick arch	Brick and stone	5.0
*Hyde Park avenue, West Roxbury	19.5	5.0	50	Stone	Wood	
La Grange street, corner of Pleasant, West Roxbury	3.0	2.0	70	Stone	Stone	1.0
La Grange street, north-west of Weld, West Roxbury	3.0	1.5	90	Stone	Stone	1.5
La Grange street, opp. Mt. Benedict Cem, West Roxbury	2.0	2.5	50	Stone	Stone	2.0

List of Culverts and Small Bridges. — *Continued.*

Location.	Span. *Feet.*	Height of Opening. *Feet.*	Length. *Feet.*	Side-walls.	Covering.	Depth of Covering. *Feet.*
La Grange street, south-east of Weld, West Roxbury	2.0	3.0	50	Stone	Stone	3.0
Lake street, opposite Chandler's pond, Brighton	2.5	2.5	33	Stone	Stone	2.0
Lake street, south of Washington, Brighton	3.5	2.0	33	Stone	Stone	3.5
Mill street, Dorchester	each 6.75	each 9.5	50	Double stone arch.	Stone	5.0
Morton street, near Austin farm, West Roxbury	4.0	5.0	50	Stone	Stone	2.0
*Morton street, near Washington, West Roxbury	15.0	10.0	50	Stone arch	Stone	4.0
*Mount Hope street, West Roxbury	each 8.0	each 5.0	40	Double stone arch.	Stone	3.0
Mount Hope strset, West Roxbury	5.0	4.0	40	Stone arch	Stone	2.0
Neponset avenue, Dorchester	2.5	2.5	60	Wood	Earth and wood.	7.17
Neponset avenue, 500 feet from Hyde Park avenue, West Roxbury	5.0	4.0	40	Stone arch	Stone	2.0
*Neponset avenue, West Roxbury	14.0	6.0	45	Stone arch	Stone	2.5
North Harvard street, near Franklin, Brighton	4.0	2.67	40	Stone	Stone	3.0
Oakland street, south of Faneuil, Brighton	3.5	2.0	40	Stone	Stone	2.0
Park street, west of Dorchester avenue, Dorchester	5.0	3.67	50	Stone	Wood.	
Park street, west of O.C.R.R., Dorchester	8.5	5.0	50	Stone	Wood.	
Parsons street, north of Faneuil, Brighton	4.0	4.0	40	Stone	Stone	15.0
Perkins street, near Jamaica Pond, West Roxbury	5.0	4.0	40	Stone arch	Stone	4.0
Poplar street, 500 feet from Beech, West Roxbury	3.0	1.5	110	Stone	Stone	4.5

Poplar street, Roslindale, West Roxbury	7.0	4.0	40	Stone arch	Stone	2.0
Preston street, Dorchester	9.0	5.08	40	Wood	Wood and earth,	4.3
River street and Blue Hill avenue, Dorchester	2.17	2.75	140	Stone	Stone	4.67
River street, Dorchester	3.25	2.5	50	Stone	Stone	1.25
Saratoga street, East Boston	5.0	6.0	50	Oval brick	Brick	6.0
South street, at Arnold Arboretum, West Roxbury	4.5&2.0	3.5&1.5	30	Double stone	Brick	1.5 & 3.5
Spring street, near Spring-street station, West Roxbury	2.67	2.67	63	Stone	Wood.	
Summer street, near Spring-street station, West Roxbury	4.0	4.5	40	Stone	Wood.	
Tencan street, near Fulton, Dorchester	6.25	6.25	40	Wood	Earth and wood,	6.5
*Texas street, off Tremont street	14.0	about 8.0	20	Stone	Wood	3.0
Walk Hill street, near Canterbury, West Roxbury	8.0	4.0	50	Stone arch	Stone	3.0
Walter street, north of Bussey park, West Roxbury	3.0	4.0	60	Stone	Stone	3.0
Washington street, corner Beaumont avenue, Brighton	3.0	3.5	65	Stone	Stone	3.0
*Washington street (Musk-Rat Village), West Roxbury	14.0	6.0	40	Stone arch	Stone	4.5
Washington street, near Poplar street, West Roxbury	14.0	5.0	38	Stone	Wood	3.4
*Washington street, near Williams, West Roxbury	each 7.0	each 7.0	70	Double stone arch	Stone	4.5
Weld street, near La Grange, West Roxbury	2.0	4.0	30	Stone	Stone	4.0
Western avenue, near North Harvard street, Brighton	4.0	3.0	60	Stone	Stone	4.0
*Williams street, West Roxbury	15.5	8.0	40	Stone	Wood	
Williams street, West Roxbury	5.0	5.0	50	Wood	Wood	

APPENDIX D.

List of Tools, etc., at Foundry-st. Yard.

2 Narrow axes.
1 Pick axe.
45 Ship augers.
2 Claw bars.
4 Shackle bars.
7 Stripping bars.
4 Pinch bars.
3 Cant bars.
25 Drift bolts.
2 Ice chisels.
11 Cold chisels.
2 Iron Clamps.
4 Iron chains.
10 Iron dogs.
7 Painters' falls.
14 Fence hangers.
14 Bridge hangers.
2 Roof hooks.
7 S-hooks.
2 Trestles.
6 Triangles.
15 Ladders.
3 Iron wedges.
1 Step ladder.
3 Street horses.
2 Socket wrenches.
36 Paint pots.
20 Paint scrapers.
400 Feet rope.
4 Hydraulic jacks.
3 Screw jacks.
3 Lockers.
11 Lanterns.
1 Timber truck.
1 Hand-cart.
1 Wheelbarrow.
2 Cross-cut saws.
1 Bucksaw and horse.
1 Iron vise.
1 Spur-shore clamp.
2 Snow shovels (steel).
1 Monkey wrench.
5 Fork wrenches.
1 Concord wagon.
1 Buggy.
3 Harnesses.
3 Horses.
1 Snow shovel (wooden).
2 Express wagons.
1 Bull saw.
15 Painters' hammers.
2 Painters' hammers (heavy).

APPENDIX E.

DRAW-TENDERS' REPORTS.[1]

Giving the Number of Vessels passing through the Drawbridges controlled by the City of Boston, during the years 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, and 1889.

Name of Bridge.	Steamers.									Sailing Vessels.									Tugs.									All Others.									Total No. of Vessels.									Total for Nine Years.
	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1881 to 1889 inclusive.
Broadway	20	34	34	36	40	54	21	14	22	4,201	3,772	3,530	3,905	3,825	3,394	3,188	3,168	3,279	2,040	2,041	1,813	1,705	1,625	1,440	1,360	1,578	1,258	180	277	136	245	126	194	194	206	584	6,411	6,124	5,543	5,891	5,616	5,082	4,763	4,966	5,143	49,569
Cambridge Street	6	...	...	...	...	...	...	2	...	411	372	398	394	431	476	461	534	439	691	577	1,187	878	736	840	783	944	967	70	33	1,025	451	28	35	61	80	113	1,178	982	2,610	1,723	1,195	1,351	1,305	1,560	1,519	13,423
Charles River	46	81	60	57	76	86	53	30	12	5,868	5,386	5,089	4,851	4,818	5,139	4,785	4,753	4,344	2,681	2,587	2,446	2,065	1,510	1,745	1,864	2,118	2,269	741	712	537	506	421	658	889	809	1,420	9,336	8,769	8,132	7,479	6,825	7,628	7,591	7,710	8,045	71,515
Chelsea (North)	63	125	95	174	191	146	89	229	194	910	909	848	866	730	770	786	1,906	879	1,447	1,595	1,784	1,720	1,220	1,330	1,421	3,263	3,274	446	385	562	433	191	269	338	970	2,649	2,866	3,014	3,289	3,193	2,332	2,515	2,634	6,368	6,996	33,207
Chelsea (South)	2	7	17	18	10	4	2	...	6	1,380	1,188	1,122	1,225	1,100	1,113	1,196	1,086	938	1,912	2,018	2,192	2,609	1,997	2,286	2,678	3,124	2,687	365	440	502	1,012	509	517	532	950	858	3,659	3,653	3,833	4,864	3,616	3,920	4,408	5,160	4,489	37,602
Chelsea Street	...	...	...	...	...	1	1	...	...	...	...	...	...	3	1	12	2	...	...	...	3	...	2	1	...	...	...	...	...	6	6	1	4	10	10	11	...	...	9	6	6	7	23	12	11	74
Commercial Point	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	5	6	11	10	5	3	1	1	9	5	6	11	10	5	3	1	1	51
Congress Street	216	254	329	358	390	356	365	391	343	7,818	6,667	6,024	6,008	6,173	5,711	5,555	5,337	5,148	7,778	8,769	8,625	7,122	6,433	6,510	5,944	6,312	5,423	1,643	2,187	4,021	2,260	1,604	2,243	1,890	1,599	2,187	17,455	17,877	18,999	15,748	14,600	14,820	13,754	13,639	13,101	139,993
Dover Street	26	36	32	37	40	53	19	14	14	3,147	3,103	2,695	3,013	2,922	2,581	2,671	2,741	2,786	1,871	1,907	1,658	1,562	1,505	1,352	1,275	1,458	1,113	229	221	233	314	230	316	206	185	613	5,573	5,267	4,618	4,926	4,697	4,302	4,171	4,398	4,526	42,478
Essex Street	99	1	1	...	...	...	...	4	...	443	421	441	437	477	526	512	592	499	718	570	1,237	904	781	875	829	993	1,058	42	33	932	427	26	44	42	62	106	1,302	1,025	2,611	1,768	1,284	1,445	1,383	1,651	1,663	14,132
Federal Street	20	34	34	36	37	55	20	14	23	4,204	3,735	3,688	3,934	3,854	3,398	3,337	3,390	3,164	2,203	2,270	2,126	1,931	1,810	1,678	1,530	1,808	1,531	400	490	256	319	213	344	244	305	725	6,827	6,529	6,004	6,220	5,944	5,475	5,131	5,517	5,743	53,390
Granite	...	...	...	...	...	...	...	...	...	104	98	69	94	113	109	109	141	110	132	95	120	132	160	170	167	216	196	...	...	...	...	...	...	...	...	...	236	193	189	226	273	279	276	387	306	2,365
Malden	28	16	...	...	...	2	4	...	6	393	356	308	424	336	300	298	386	365	735	781	894	853	776	752	775	962	947	135	120	445	238	303	242	165	385	308	1,291	1,273	1,647	1,515	1,415	1,296	1,242	1,733	1,626	13,038
Meridian Street	88	116	29	27	9	17	25	75	97	928	1,038	886	1,054	1,019	1,002	1,063	1,005	1,021	2,123	2,330	1,869	2,225	2,214	2,109	2,553	2,734	2,909	767	845	904	803	662	587	719	834	1,052	3,906	4,329	3,688	4,109	3,904	3,715	4,360	4,648	5,079	37,738
Mt. Washington Avenue	26	51	76	65	64	79	60	63	32	5,375	4,816	4,533	4,693	4,681	4,314	4,044	3,945	3,958	4,879	5,197	5,196	4,603	4,225	4,187	3,923	4,272	3,551	1,050	1,313	1,939	1,845	1,364	1,115	1,234	1,211	1,659	11,330	11,377	11,744	11,206	10,334	9,695	9,261	9,491	9,200	93,638
Neponset	...	...	...	...	...	...	...	...	...	135	137	130	156	185	138	222	233	176	92	118	126	134	166	174	162	252	205	...	2	10	...	8	18	3	21	6	227	257	266	290	359	330	387	506	387	3,009
No. Beacon Street	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	1	...	4	...	2	2	...	...	1	1	...	4	...	2	2	...	2	1	12
No. Harvard Street	...	...	...	...	...	...	...	...	...	136	125	106	119	97	133	159	169	168	244	226	937	452	168	264	284	317	352	21	26	823	440	11	26	24	28	35	401	377	1,866	1,011	276	423	467	514	555	5,890
Warren	39	82	61	54	77	82	44	46	25	4,877	4,395	4,186	4,095	3,924	4,298	3,933	4,230	4,060	1,685	1,493	1,204	1,144	680	846	864	965	1,192	603	550	322	354	319	527	905	591	866	7,204	6,520	5,773	5,647	5,000	5,753	5,746	5,832	6,143	53,618
Western Avenue to Cambridge	2	...	...	...	...	...	...	2	...	384	341	348	355	383	427	417	465	380	654	539	1,136	821	653	769	723	814	833	70	32	1,024	467	28	32	57	39	81	1,110	912	2,508	1,643	1,064	1,228	1,197	1,350	1,294	12,306
Western Avenue to Watertown	2	4	...	2	4	...	...	...	...	48	64	29	61	33	2	12	4	2	37	21	35	36	56	21	25	22	21	18	27	22	9	28	18	18	16	14	105	116	86	108	121	44	55	42	37	714
Totals	683	844	768	864	938	935	703	884	774	41,062	36,923	34,330	35,684	35,104	33,832	32,760	34,089	32,016	31,922	33,134	34,618	30,896	26,747	27,352	27,160	32,212	29,786	6,790	7,698	13,709	10,140	6,084	7,196	7,534	8,302	13,289	80,457	78,599	83,125	77,584	68,873	69,315	68,157	75,487	75,865	677,762

[1] West Boston, Prison Point, Canal (or Craigie's) and Harvard Bridges, not included in these tables, being in the care of Commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

AUG 5